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CATALOGUE

OF THE

BIRDS

IN THE

BRITISH MUSEUM.

VOLUME XVIII.

LONDON:

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CATALOGUE

OF THE

PICARIÆ

IN THE

COLLECTION

OF THE

BRITISH MUSEUM.

SCANSORES,

CONTAINING THE FAMILY

PICIDÆ.

BY

EDWARD HARGITT.

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PREFACE.

This volume is published in advance of the sixteenth and seventeenth, the manuscripts of which, however, are in course of preparation. Its early appearance is due to the fortunate circumstance that it was undertaken by Mr. Hargitt, who for many years has made the family of Woodpeckers the subject of his special study: I have great pleasure in acknowledging the unremitting and conscientious care which he has bestowed on the details of every portion of the work throughout its progress.

Beside those benefactors who have so largely contributed to the general collection of Birds in the Museum, and whose names occur on almost every page of this work, I have to refer to the donations by L. Wray, Jr., Esq., H. C. V. Hunter, Esq., and F. J. Jackson, Esq., which were specially useful in the preparation of the present volume.

ALBERT GÜNTHER,
Keeper of the Department of Zoology.

British Museum (N. H.),
June 9, 1890.

INTRODUCTION.

The number of genera of the family *Picidæ* is 50, every known genus being represented in the British Museum. The number of species and subspecies recorded in this volume is 385, of which 36 are still wanting to complete the Collection. Of these 385 species the Museum possesses the types of 75, and the number of specimens in the Collection at the present date is 7894.

As a rule, the species of *Picidæ* are very clearly defined, but in *Dendrocopus*, *Picoides*, and *Colaptes* there is a decided tendency to subdivide into races. Most of the latter have an exact range, and it is only in the case of the North-American *Colaptes*, *C. auratus* and *C. mexicanus*, that there seems to be any definite appearance of hybridization (see my remarks, *infrà*, p. 22). This leads us once more to the consideration of the question of "what is a species"? It is generally admitted that birds not intergrading into an allied form are species; but where intergradation takes place the allied form is a subspecies or race. The regions, however, likely to produce these intermediate forms may not have been explored, and such forms may, and most probably do, exist in certain localities; therefore, if this be the case, are these birds to be regarded as distinct species merely because these links are not in evidence? Island forms may or may not possess some slight differences from typical birds, but not sufficient to separate them; yet some authors take it for granted that with insular separation there can be no intergradation: therefore we find insignificant islands made to father a host of indifferent species or subspecies; but I fail to see (if perfect intergradation be insisted on in determining the position

of a bird as a subspecies) how island forms can be reduced to this rank. If there be no possible intergradation, the birds must, according to ornithologists holding this view, be specifically distinct. I am, of course, of opinion that where a species intergrades into an allied form, the latter is a subspecies; but I do not consider that without proof of distinct intergradation a bird must necessarily merit specific rank and fail to be regarded as subspecifically distinct only. Some island forms, although they may certainly differ slightly from typical birds, have differences so suggestive of climatic variation only and not of specific value, that I take them upon their own merits and assign them a position accordingly.

The most serious difficulty, however, presents itself in treating of the *Colaptes* of North America, *C. auratus* and *C. mexicanus*, and the intermediate form termed *C. ayersi*. Whether we accept the strong evidence of the late Professor Spencer Baird and regard the varied race as the result of hybridization, or whether we adopt the views of Mr. J. A. Allen, who is not in favour of such a theory, and seems rather to consider the variation as the result of climatic influence and of a change in the conditions of environment, or whether we follow Dr. Elliott Coues, who suggests that it may be a transitional form, it is evident that a difficulty must arise in endeavouring to ascertain whether the intermediate birds which are found at a great distance from the point of junction of *C. auratus* and *C. mexicanus* are really beyond the radius to which a change would extend, or whether beyond that to which some of the intermediate birds might wander, or whether such change in individual examples be a sign of a reversion to a remote ancestral plumage. I am certainly in favour of the theory of interbreeding, and I see no insurmountable difficulty, by adopting such a view, in accounting for certain characters, suggestive of hybridization, appearing in a remote region where no interbreeding of *C. auratus* and *C. mexicanus* could possibly exist. It may be that the ancestors of the *Colaptes* had the red malar stripe in the male, and the black stripe in the female, and a red nuchal band may have existed in either one or both sexes, and the differentiation in succeeding forms would not preclude reversion to the original one,—in fact, it is what might be looked for.

In our *Gecini*, many species, or all, may have had the same ancestors, and whether we take it that the original form had the malar stripe red in both sexes, or black in both sexes, or red in the male and black in the female, yet every conceivable variation has sprung from these, viz.: *G. viridis*, in which the male has a red malar stripe and the female a black one; *G. awokera*, in which both sexes have the malar stripe red; *G. vaillanti*, in which the malar stripe is black in both sexes; *G. canus*, with the malar stripe black in the male and absent in the female; and that we do not find these species interbreeding, or varying to any extent, or it may be reverting to an earlier form, probably is because no cause exists why they should do so; such cause may exist among the *Colaptes*, although we cannot account for it. It may be, however, that in some of the *Gecini* there has been a decided reversion to an earlier form, which, from its fixed character, we now regard as forming a species.

The original form of *Colaptes* may have come from the north, differentiating in the eastern and western branches, and when uniting again producing the varied form *C. ayresi*; or the species may have radiated from a centre, say from a bird resembling *C. chrysoides*, the various branches retaining certain characters and acquiring others: *C. auratus* retaining the yellow wings and tail, having the red malar stripe replaced by a black one, and acquiring a red nuchal band; *C. mexicanus* retaining the red malar stripe and acquiring red wings and tail; and *C. chrysoides*, possessing some of the characters of each of these species; the union of two of the branches producing the varied race now under our consideration, which is certainly more nearly allied to *C. chrysoides*, but wants the fixed characters of that species.

In the *Picidæ* the top of the head, the nape, the malar region, and the abdomen are the centres of change of plumage, and in genera not possessing a single species with a red nuchal band, an individual specimen will sometimes have a trace of red on this region, and certain instances could be given of individuals presenting, upon one of the above-mentioned regions, a character not possessed by typical birds. If this resulted from a tendency to differentiate and acquire a new character, I think it would be more frequent and occur wherever the surrounding circumstances favoured it, but its infrequency

rather indicates an attempt (although a feeble one) to revert to an earlier form.

The magnificent donations of the "Hume," "Salvin and Godman," and "Tweeddale Collections," the acquisition of the "Sclater" and the "Shelley Collections," beside other valuable additions obtained by the Trustees from various sources, while adding to the bulk of the present volume, have, I trust, provided a more solid basis upon which to work, by supplying many links in the chain of evidence.

I have to record my thanks to Professor Alphonse Milne-Edwards and Dr. Oustalet of Paris, Dr. Jentink of Leiden, Dr. Smitt of Stockholm, Dr. Ridgway of Washington, Count Salvadori of Turin, Professor Alfred Newton, Thomas Moore, Esq., of the Derby Museum, Liverpool, Messrs. Salvin and Godman, Sclater, Seebohm, E. W. Oates, Sennett, Dresser, Harvie-Brown, also to Canon Tristram, Captain Shelley, and Major Wardlaw-Ramsay, for the great services rendered, either by the loan of specimens for the purposes of the present volume, or by much valuable information and assistance during the progress of my long-continued study of the birds of this family; and I feel sure that the expression of my opinion upon points in which I differ from some of my colleagues will be received in the same spirit in which such notes have been penned.

The same symbols used in the previous volumes of the 'Catalogue' are adopted here. "[P.]" means "Presented by;" "[C.]"= "Collected by." The sex of a specimen enclosed in brackets, thus [♂], indicates that the bird is in all probability of the sex given, but that the collector's label lacks this information. The locality of a specimen enclosed in brackets shows that such locality is upon the label, but that its correctness is doubtful.

EDWARD HARGITT.

May 3rd, 1890.

SYSTEMATIC INDEX.

Order PICARIÆ.

Suborder SCANSORES.

Fam. PICIDÆ.

Subfam. I. PICINÆ.

Page

1. Geocolaptes, *Swainson* .. 9
1. olivaceus (*Gm.*)..... 9
2. Colaptes, *Swainson* 10
1. auratus (*Linn.*) 12
2. chrysocaulosus, *Gundl.* 15
3. gundlachi, *Cory*..... 15
4. chrysoides (*Malh.*) .. 16
5. mexicanus, *Swains.* 17, 568
6. submexicanus (*Sundev.*)..... 21
7. ayresi, *Aud.* 22
8. campestris (*Vieill.*) 23, 568
9. agricola (*Malh.*) 25
10. rupicola, *D'Orb*..... 26
11. puna, *Licht.* 27
12. cinereicapillus, *Reichenb.* 27
13. pitius (*Mol.*)..... 28
3. Hypoxanthus, *Bp.* 29
1. rivolii (*Boiss.*) 30
a. brevirostris, *Tacz.*.. 31
2. atriceps, *Sclat. & Salv.* 32
4. Gecinus, *Boie* 33
1. viridis (*Linn.*) 36
2. sharpii, *Saund.*..... 40
3. vaillanti (*Malh.*) 41
4. awokera (*Temm.*).... 41
5. squamatus (*Vig.*) 43
6. gorii, *Harg.* 45
7. vittatus (*Vieill.*) 46
8. viridanus (*Blyth*) 47
9. striolatus (*Blyth*) 50
10. canus (*Gm.*) 52
11. guerini (*Malh.*)..... 55
12. occipitalis (*Vig.*) 56

Page

13. chlorolophus (*Vieill.*) . 59
14. chlorigaster (*Jerd.*) .. 62
15. puniceus (*Horsf.*) 64
16. erythropygius, *Elliot*.. 66
17. nigrigenis, *Hume* 67
5. Chloronerpes, *Swains.*.... 69
1. chrysochlorus (*Vieill.*). 72
2. brasiliensis (*Swains.*) . 73
3. xanthochlorus, *Sclat. & Salv.*..... 73
4. capistratus (*Bp.*) 74
5. erythropsis (*Vieill.*).. 75
6. leucolæmus (*Malh.*).. 76
7. flavigula (*Bodd.*) 77
8. aurulentus (*Temm.*).. 79
9. callopterus, *Lawr.* .. 80
10. simplex, *Salv.* 81
11. æruginosus (*Licht.*) .. 81
12. auricularis, *Salv. & Godm.* 83
13. godmani, *Harg.* 83
14. yucatanensis (*Cabot*) . 84
15. gularis, *Harg.* 86
16. rubiginosus (*Swains.*) 86, 568
17. striatus (*Müll.*)..... 89
6. Campothera, *Gray*..... 90
1. nubica (*Gm.*) 93
2. notata (*Licht.*)..... 95
3. malherbii (*Cass.*).... 96
4. punctata (*Valenc.*) .. 96
5. balia (*Heugl.*) 98
6. abingdoni (*Smith*) .. 98
a. mombassica, *Fisch. & Reichen.*..... 100
7. smithi (*Malh.*) .. 100, 568
8. cailliaudi (*Malh.*).... 102
9. bennetti (*Smith*) 102
a. capricorni, *Strickl.* . 104
10. maculosa (*Valenc.*) 104, 568
11. permista, *Reichenow*.. 106

Page
12. caroli (*Malh.*) 107
13. nivosa (*Swains.*) 108
7. Chrysoptilus, *Swains.* .. 109
1. melanochlorus (*Gm.*) 110, 568
2. cristatus, *Vieill.* 112
3. icteromelas (*Vieill.*).. 114
4. chrysomelas (*Malh.*) . 115
5. mariæ, *Harg.* 115
6. punctigula (*Bodd.*) .. 116
7. guttatus (*Spix*) 117
8. atricollis (*Malh.*) 118
8. Chrysophlegma, *Gould* .. 119
1. miniatum (*Forst.*) .. 121
2. malaccense (*Lath.*) 122, 568
3. mentale (*Temm.*) 125
4. humii, *Harg.* 126
5. flavinucha (*Gould*) .. 127
6. pierrii, *Oust.* 130
7. wrayi, *Sharpe* 130
8. mystacale, *Salvad.* .. 131
9. Gauropicoides, *Malh.* ... 132
1. rafflesi (*Vig.*) 132
10. Gecinulus, *Blyth* 134
1. grantia (*McClell.*) .. 134
2. viridis, *Blyth*..... 136
11. Asyndesmus, *Coues* 137
1. torquatus (*Wils.*) 137
12. Melanerpes, *Swains.* 139
1. erythrocephalus (*Linn.*) 145, 568
2. candidus (*Otto*)..... 148
3. formicivorus (*Swains.*) 149, 569
a. melanopogon (*Temm.*) 151, 569
β. angustifrons, *Baird.* 153
4. flavigula, *Reichenb.* .. 154
5. xantholarynx, *Reichenb.* 155
6. cruentatus (*Bodd.*) .. 155
7. rubrifrons (*Spix*) 157
8. portoricensis (*Daud.*) . 159
9. chrysauchen, *Salv.* .. 160
10. pulcher, *Sclat.* 160
11. flavifrons (*Vieill.*) .. 161
12. cactorum (*Lafr. & D'Orb.*) 162
13. herminieri (*Less.*).... 163
14. pucherani (*Malh.*) .. 164
15. radiolatus (*Wagl.*) .. 166
16. superciliaris (*Temm.*). 167
17. blakii (*Ridgw.*)..... 168
18. nyeanus (*Ridgw.*).... 169
19. caymanensis (*Cory*) .. 169
20. carolinus (*Linn.*). 170, 569
21. dubius (*Cabot*) 172
Page
22. canescens (*Salv.*) 174
23. tricolor (*Wagl.*) 174
a. terricolor (*Berl.*) .. 176
24. rubriventris (*Swains.*) 176
25. aurifrons (*Wagl.*).... 177
a. santa-cruzi (*Bp.*) .. 179
26. hoffmanni (*Cab.*) 181
27. uropygialis (*Baird*) 182, 569
28. elegans (*Swains.*).... 184
29. hypopolius (*Wagl.*) .. 186
13. Sphyropicus, *Baird* 187
1. varius (*Linn.*) .. 188, 569
a. nuchalis, *Baird* 192, 569
2. ruber (*Gm.*) 194
3. thyroideus (*Cass.*) 196, 569
14. Hypopicus, *Bp.* 198
1. hyperythrus (*Vig.*) .. 199
2. poliopsis (*Swinh.*).... 201
15. Dendrocopus, *Koch*..... 201
1. major (*Linn.*) .. 211, 570
a. cissa (*Pall.*) 214
β. pœlzami (*Bogd.*) .. 214
γ. leucopterus, *Salvad.* 215
2. japonicus (*Seeb.*) 216
3. mauritanus (*Brehm*) . 216
4. numidicus (*Malh.*) .. 217
5. cabanisi (*Malh.*) 218
6. himalayensis (*Jard. & Selb.*) 220
7. darjilensis, *Blyth* 221
8. cathpharius, *Blyth* .. 223
9. pyrrhothorax (*Hume*). 224
10. pernyi (*Verr.*) 225
11. syriacus (*Hempr. & Ehr.*) 225
12. scindeanus (*Horsf. & Moore*) 227
13. arizonæ (*Harg.*) . 228, 570
14. villosus (*Linn.*)..... 230
a. maynardi (*Ridgw.*) 233, 570
β. harrisi (*Aud.*) . 234, 570
γ. jardinii (*Malh.*) 237, 570
15. pubescens (*Linn.*) 238, 571
a. gairdneri (*Aud.*) .. 241
16. stricklandi (*Malh.*) 243, 571
17. nuttalli (*Gamb.*) 244
18. scalaris (*Wagl.*).. 246, 571
a. lucasanus (*Xantus*). 250
β. graysoni (*Lawr.*) .. 250
19. borealis (*Vieill.*) . 251, 571
20. minor (*Linn.*) 252
a. pipra (*Pall.*) 255
β. quadrifasciatus (*Radde*) 256
γ. dantordi (*Harg.*) .. 256

Page

21. lignarius (*Mol.*) 257
22. mixtus (*Bodd.*)..... 259
23. cancellatus (*Wagl.*) .. 260
24. macii (*Vieill.*) 260
25. atratus (*Blyth*)..... 263
26. brunneifrons (*Vig.*) 264, 571
27. analis (*Horsf.*) 266
28. andamanensis (*Blyth*). 267
29. leuconotus (*Bechst.*).. 268
a. cirris (*Pall.*) 271
β. subcirris (*Stejn.*) .. 271
γ. lilfordi (*Sharpe & Dress.*) 272
30. insularis (*Gould*) 272
31. namiyei (*Stejn.*) 273
16. Picoides, *Lacép.*..... 274
1. tridactylus (*Linn.*). .. 275
a. crissoleucus (*Bp.*).. 277
2. dorsalis, *Baird* 278
3. americanus, *Brehm*... 279
a. alascensis, *Nelson* .. 280
4. arcticus (*Swains.*).... 282
5. funebris, *Verr.*..... 283
17. Xenopicus, *Baird* 284
1. albolarvatus (*Cass.*) .. 284
18. Dendrocoptes, *Cab. & Heine* 286
1. medius (*Linn.*) 286
a. sancti-johannis (*Blanf.*) 288
19. Liopicus, *Bp.* 289
1. mahrattensis (*Lath.*).. 290
20. Dendropicus, *Malh.* 293
1. cardinalis (*Gm.*) 295
a. zanzibari, *Malh.*.... 297
2. minutus (*Temm.*) 299
3. hemprichi (*Hempr. & Ehr.*) 299
4. lafresnayi, *Malh.* 301
5. lepidus (*Cab. & Heine*) 302
6. sharpii, *Oust.*..... 302
7. abyssinicus (*Stanl.*) .. 303
8. gabonensis (*J. & E. Verr.*) 304
9. lugubris, *Hartl.*..... 305
21. Thripias, *Cab. & Heine* .. 306
1. namaquus (*Licht.*) 306, 571
2. schoensis (*Rüpp.*) 308
22. Iyngipicus, *Bp.* 309
1. semicoronatus (*Malh.*) 312
2. scintilliceps (*Swinh.*).. 313
a. doerriesi, *Harg.*.... 314
β. kaleensis (*Swinh.*).. 315
3. pygmæus (*Vig.*)..... 315
4. wattersi, *Salvad.* 317

Page

5. kizuki (*Temm.*) 318
a. seebohmi, *Harg.* .. 319
β. nigrescens, *Seeb.*.... 319
6. aurantiiventris (*Salvad.*)320
7. pumilus, *Harg.*..... 321
8. canicapillus (*Blyth*) .. 322
9. picatus, *Harg.* 324
10. grandis, *Harg.* 325
11. auritus (*Eyton*) 325
12. nanus (*Vig.*) 327
13. hardwickii (*Jerd.*).... 328
14. gymnophthalmus (*Blyth*) 330
a. peninsularis, *Harg.* 331
15. maculatus (*Scop.*) 332
16. fulvifasciatus, *Harg*... 333
17. ramsayi, *Harg.* 334
18. temmincki (*Malh.*) .. 335
19. obsoletus (*Wagl.*) 336
23. Dendrobates, *Swains.*.... 337
1. fumigatus (*Lafr. & D'Orb.*) 342
2. caboti (*Malh.*) 344
3. oleaginus (*Licht.*) 344
4. sanguinolentus (*Sclat.*) 346
5. callonotus (*Waterh.*).. 346
6. peruvianus (*Tacz.*) .. 348
7. sanguineus (*Licht.*) .. 348
8. kirtlandi (*Malh.*) 349
9. nigriceps (*Lafr. & D'Orb.*) 350
10. murinus (*Malh.*) 351
11. dignus (*Sclat. & Salv.*). 351
12. tephrodops (*Wagl.*) .. 352
13. tænionotus (*Reichenb.*) 353
14. frontalis (*Cab.*) 354
15. agilis (*Cab. & Heine*) . 355
16. olivinus (*Malh.*) 356
17. fidelis, *Harg.*..... 357
18. spilogaster (*Wagl.*) .. 358
19. maculifrons (*Spix*).... 359
20. cassini (*Malh.*) 360
21. ruficeps (*Spix*) 361
22. affinis (*Swains.*)..... 362
23. hæmatostigma (*Malh.*) 364
24. kirki (*Malh.*)..... 365
25. ceciliæ (*Malh.*) 366
24. Mesopicus, *Malh.* 367
1. goertan (*P. L. S. Müll.*) 368
2. spodocephalus (*Bp.*) .. 370
3. griseocephalus (*Bodd.*). 371
4. pyrrhogaster (*Malh.*).. 373
5. ellioti (*Cass.*)..... 374
6. johnstoni (*Shelley*).... 375
7. xantholophus (*Harg.*) 375, 571

Page

25. Xiphidiopicus, *Bp.* 376
1. percussus (*Temm.*).... 377
26. Sapheopipo, *Harg.* 378
1. noguchii (*Secb.*) 378
27. Lepocestes, *Cab. & Heine.* 379
1. pyrrhotis (*Hodgs.*).... 380
2. porphyromelas (*Boie*) . 382
28. Miglyptes, *Swains.* 384
1. tristis (*Horsf.*) 384
2. grammithorax (*Malh.*). 385
3. tukki (*Less.*) 388
4. infuscatus, *Salvad.*.... 390
5. jugularis, *Blyth* 391
29. Micropternus, *Blyth* 392
1. phæoceps, *Blyth*..... 393
a. brachyurus (*Vieill.*). 396
2. gularis, *Jerd.* 399
3. badiosus (*Temm.*) 400
4. fokiensis (*Swinh.*) 402
5. holroydi, *Swinh.* 403
30. Brachypternus, *Strickl.* .. 403
1. aurantius (*Linn.*) . 404, 572
2. puncticollis (*Malh.*) .. 407
3. erythronotus (*Vieill.*).. 409
31. Tiga, *Kaup* 411
1. javanensis (*Ljung*).... 412
2. shorii (*Vig.*) 417
3. everetti, *Tweedd.* 418
32. Nesoceleus, *Sclat. & Salv.* 419
1. fernandinæ (*Vig.*).... 419
33. Celeus, *Boie* 420
1. flavescens (*Gm.*) 422
2. lugubris (*Malh.*) 424
3. ochraceus (*Spix*) 425
4. immaculatus, *Berl.* .. 426
5. elegans (*P. L. S. Müll.*) 426
6. reichenbachi (*Malh.*)
427, 572
7. jumana (*Spix*) 428
8. citreopygius, *Sclat. & Salv.* 429
9. rufus (*Gm.*) 430
10. undatus (*Linn.*) 431
11. loricatus (*Reichenb.*).. 432
12. castaneus (*Wagl.*).... 433
13. grammicus (*Malh.*) .. 434
14. spectabilis, *Sclat. & Salv.* 435
34. Cerchneipicus, *Bp.*..... 436
1. torquatus (*Bodd.*) 437
2. tinnunculus (*Wagl.*).. 438
3. occidentalis, *Harg.* .. 439
35. Crocomorphus, *Harg.*.... 439
1. flavus (*P. L. S. Müll.*)
440, 572
2. semicinnamomeus (*Reichenb.*) 441

Page

36. Chrysocolaptes, *Blyth* .. 442
1. festivus (*Bodd.*) 445
2. strictus (*Horsf.*) 447
3. guttacristatus (*Tick.*) . 448
4. erythrocephalus, *Sharpe* 452
5. stricklandi (*Layard*).. 453
6. hæmatribon (*Wagl.*).. 454
7. lucidus (*Scop.*) 455
8. rufopunctatus, *Harg.*. 457
9. xanthocephalus, *Wald. & Layard* 457
10. validus (*Temm.*) 458
37. Campophilus, *Gray* 460
1. principalis (*Linn.*) 463, 572
2. bairdi, *Cass.* 465
3. imperialis (*Gould*) .. 465
4. leucopogon (*Valenc.*) . 466
5. rubricollis (*Bodd.*).... 467
6. trachelopyrus (*Malh.*). 469
7. melanoleucus (*Gm.*) .. 470
8. malherbii, *Gray*..... 472
9. guatemalensis (*Hartl.*) 473
10. guayaquilensis (*Less.*). 475
11. pollens (*Bp.*) 476
12. robustus (*Licht.*) 477
13. hæmatogaster (*Tschudi*) 478
14. splendens, *Harg.* 480
38. Ipocrantor, *Cab. & Heine* . 480
1. magellanicus (*King*) .. 480
39. Hemicercus, *Swains.* 482
1. concretus (*Temm.*) .. 482
2. sordidus (*Eyton*) 483
3. canente (*Less.*) 486
a. cordatus, *Jerd.* 488
40. Microstictus, *Harg.* 489
1. fulvus (*Quoy & Gaim.*). 490
2. wallacii (*Tweedd.*).... 491
3. fuliginosus (*Tweedd.*) . 492
4. funebris (*Valenc.*).... 492
41. Hemilophus, *Swains.* 494
1. pulverulentus (*Temm.*) 494
42. Thriponax, *Cab. & Heine* . 497
1. javensis (*Horsf.*) 498
2. pectoralis, *Tweedd.* .. 500
3. crawfurdi (*Gray*) 501
4. hodgii (*Blyth*) 502
5. hodgsoni (*Jerd.*)..... 503
6. feddeni (*Blanf.*).. 504, 572
7. kalinowskii, *Tacz.*.... 505
8. hargitti, *Sharpe*..... 505
9. richardsi (*Tristram*) .. 506
43. Ceophlœus, *Cab. & Heine* . 506
1. lineatus (*Linn.*)..... 508
2. scapularis (*Vig.*) 510
3. fuscipennis (*Sclat.*) .. 512

Page
4. erythrops (*Valenc.*) .. 512
5. galeatus (*Temm.*) 513
44. Dryotomus, *Swains.* 514
1. pileatus (*Linn.*) .. 515, 572
2. schulzi (*Cab.*)..... 517
45. Picus, *Linn.*..... 518
1. martius, *Linn.* 518

Subfam. II. PICUMNINÆ.

46. Picumnus, *Temm.* 521
1. rufiventris (*Bp.*) 527
2. cinnamomeus, *Wagl.*.. 527
3. castelnaui, *Malh.* 528
4. leucogaster, *Pelz.* 529
5. fuscus, *Pelz.* 530
6. temmincki, *Lafr.* 530
7. cirrhatus, *Temm.* 531
8. spilogaster, *Sundev.* .. 532
9. orbignyanus, *Lafr.* .. 533
10. sclateri, *Tacz.*..... 534
11. sagittatus, *Sundev.*.... 534
12. steindachneri, *Tacz.* .. 535
13. jelskii, *Tacz.* 535
14. nebulosus, *Sundev.*.... 536
15. pygmæus (*Licht.*) 537
16. asterias, *Sundev.* 538
17. guttifer, *Sundev.* 538
18. albosquamatus, *Lafr. & D'Orb.*..... 539
19. lepidotus, *Cab. & Heine* 539
Page
20. squamulatus, *Lafr.* .. 540
21. iheringi, *Berl.* 541
22. minutus (*Linn.*) 542
23. undulatus, *Harg.* 543
24. buffoni, *Lafr.*..... 544
25. punctifrons, *Tacz.*.... 544
26. lafresnayii, *Malh.* 545
27. aurifrons, *Pelz.* 546
28. borbæ, *Pelz.* 547
29. flavifrons, *Harg.* 547
30. wallacii, *Harg.* 547
31. olivaceus, *Lafr.*..... 548
a. granadensis, *Lafr.* .. 549
32. innominatus, *Burt.* .. 549
33. chinensis (*Harg.*) 551
47. Nesoctites, *Harg.* 552
1. micromegas (*Sundev.*) . 552
48. Verreauxia, *Hartl.*..... 553
1. africana (*Verr.*)..... 553
49. Sasia, *Hodgs.* 554
1. ochracea, *Hodgs.* 555
2. abnormis (*Temm.*) .. 557
3. everetti, *Harg.* 559

Subfam. III. IYNGINÆ.

50. Iynx, *Linn.* 559
1. torquilla, *Linn.*..... 560
2. pectoralis, *Vig.*..... 565
3. pulchricollis, *Hartl.* .. 566
4. æquatorialis, *Rüpp.* .. 567

CATALOGUE

OF

BIRDS.

Order PICARIÆ.

(See vol. xvi. p. 1.)

Suborder SCANSORES.

Synopsis of the Families.

I. Oil-gland tufted; cæca none.
  A. Tail-feathers twelve.
    1. The lateral halves of the vomer separate; manubrial process of the sternum bifurcate ..... **Picidæ.**
    2. Vomer single, bifurcate; manubrial process of the sternum pointed .... **Indicatoridæ.**
  B. Tail-feathers ten.
    1. Vomer single, bifurcate; manubrial process of the sternum pointed .... **Capitonidæ.**
    2. Vomer single, truncate; manubrial process of the sternum pointed .... **Rhamphastidæ.**
II. Oil-gland nude; cæca developed.
  Tail-feathers twelve.
    1. Ventral tract of the pterylosis with an inner branch at the posterior end of its gular portion; gonys angular .. **Galbulidæ.**
    2. Ventral tract without an inner branch; gonys rounded ..... **Bucconidæ.**

Family PICIDÆ.

Bill generally strong, elongate, chisel-shaped, straight, sometimes curved. Tongue very long, worm-like, provided with a pointed, horny, barbed tip, capable of great protrusion, the hyoid cornua extending backwards over the skull (except in *Sphyropicus* and *Xenopicus*).

The lateral halves of the vomer separate; maxillo-palatines small, not fused together.

Manubrial process of the sternum bifurcate.

Femoro-caudal and semitendinosus muscles present; ambiens and accessory femoro-caudal absent.

Tail-feathers twelve.

Pterylosis: spinal tract without interscapular fork, and ending in a bare dorsal space without being forked behind; two distinct feather-tracts on each side of the breast, coalesced on the shoulder.

Oil-gland tufted.

Cæca none or quite rudimentary.

Ranging over almost all the temperate and tropical regions, but absent in Madagascar, Australia, and Polynesia.

Key to the Subfamilies and Genera.

A. With the tail spiny; all the shafts stiffened ..... I. *PICINÆ*, p. 9.

a'. Plumage of the neck ordinary, the neck not perceptibly compressed or narrowed in comparison with the head.

a''. Nasal aperture covered with bristles, which more or less effectually conceal it.

a'''. Outer anterior toe longer than outer posterior toe, or equal to it.

a^{4}. Tarsus longer than outer posterior toe and claw; scarcely any nasal shelf; culminal ridge very smooth.

a^{5}. Wing rounded, the longest secondary quill reaching to within half an inch of the longest primary; no golden or coloured shafts to the quills ..... 1. GEOCOLAPTES, p. 9.

b^{5}. Wing pointed, the longest secondary quill falling short of the longest primary by about an inch and a half; with coloured shafts to the quills ..... 2. COLAPTES, p. 10.

b^{4}. Tarsus less or equal to outer posterior toe and claw, or (in tridactyle birds) to posterior toe and claw.

c^5. Wing moderately lengthened, falling short of the tip of the tail by more than the length of the culmen.

a^6. With four toes; dwarf tail-feather not reaching beyond the tail-coverts.

a^7. Tail longer, more than two thirds the length of the wing; culmen slightly curved ..... 3. HYPOXANTHUS, [p. 29.

b^7. Tail shorter, generally less than two thirds the length of the wing, never more.

a^8. With distinct nasal ridge; bill straight or very slightly curved.

a^9. Size large; dwarf tail-feather not nearly reaching to the tips of the upper tail-coverts ..... 4. GECINUS, p. 33.

b^9. Size small; dwarf tail-feather reaching nearly to the tips of the upper tail-coverts.

a^{10}. Wing pointed, primaries exceeding secondaries by the length of the culmen ..... 5. CHLORONERPES, [p. 69.

b^{10}. Wing rounded, primaries exceeding secondaries by only half or less than half the length of the culmen ..... 6. CAMPOTHERA, p. 90.

b^8. Nasal ridge almost obsolete; culmen strongly curved.

c^9. Tail shorter, less than two thirds the length of the wing; culminal ridge very sharp .... 7. CHRYSOPTILUS, [p. 109.

d^9. Tail longer, two thirds the length of the wing; culminal ridge very blunt ..... 8. CHRYSOPHLEGMA, [p. 119.

b^6. With three toes; dwarf tail-feather very long and extending beyond the tail-coverts.

c^7. Tail-feathers very sharp and pointed, as well as narrow; bill nearly straight and with strongly marked nasal ridge ..... 9. GAUROPICOIDES, [p. 132.

d^7. Tail-feathers broad and not sharply pointed; bill

strongly curved and with no marked nasal ridge.... 10. GECINULUS, p. 134.

d^5. Wing very long, reaching to the end of the tail, or falling short of it by no more than the length of the culmen.

e^6. Plumage of the under surface of the body hair-like, the feathers devoid of barbicules ..... [p. 137.
11. ASYNDESMUS,

d^6. Plumage soft and ordinary .. 12. MELANERPES, [p. 139.

b'''. Outer posterior toe longer than outer anterior toe.

c^4. First primary very small, its exposed surface not exceeding the length of the culmen or only slightly exceeding it.

e^5. Tail much longer than or equal to second primary, not less.

e^6. Nasal shelf very broad; nasal aperture placed rather low in the maxilla.

e^7. Chin-angle exposed, never completely hidden by antrorse bristles.

e^8. Bastard-primary very small and not reaching to the end of the primary-coverts ..... 13. SPHYROPICUS, [p. 187.

d^8. Bastard-primary longer and reaching to the end of the primary-coverts.. 14. HYPOPICUS, p. 198.

f^7. Chin-angle always hidden by antrorse bristles; a conspicuous tuft of nasal plumes.

e^8. Tongue greatly extensile, its tip, when fully protruded, reaching about $2\frac{1}{2}$ inches beyond the point of the bill; chin-angle almost in a line with anterior part of nostrils. [p. 201.

e^9. With four toes ..... 15. DENDROCOPUS,

f^9. With three toes .... 16. PICOIDES, p. 274.

f^8. Tongue slightly extensile, its tip, when fully protruded, reaching only $\frac{3}{4}$ of an inch beyond the point of the bill; chin-angle considerably in advance of the nostrils. 17. XENOPICUS, p. 284.

f^6. Nasal shelf much narrower, the nasal aperture as near to the culmen as to the cutting-edge of the mandible ..... 18. DENDROCOPTES, [p. 286.

f^5. Tail shorter and never equal to the second primary.

g^6. Tarsus nearly as long as outer posterior toe with claw.
g^7. Wing rounded, the difference in length between secondaries and primaries about the length of the tarsus.
g^8. Nasal shelf narrow; nasal ridge (at the base) nearer to the culmen than to the cutting-edge of the mandible ..... 19. LIOPICUS, p. 289.
h^8. Nasal shelf broad, the nasal ridge (at the base) halfway between the culmen and cutting-edge of the mandible.
g^9. Bill shorter, not so long as the head; chin-angle hidden by bristles and not extending beyond anterior edge of nasal plumes ..... 20. DENDROPICUS, [p. 293.
h^9. Bill very long, exceeding the head in length; chin-angle exposed and extending beyond anterior edge of nasal plumes ..... 21. THRIPIAS, p. 306.
h^7. Wing pointed, the difference in length between the secondaries and primaries as long as the tarsus and outer anterior toe combined ..... 22. IYNGIPICUS, p. 309.
h^6. Tarsus only slightly longer than outer posterior toe, without claw.
i^7. Nasal ridge short and joining the cutting-edge of the maxilla at a point about half the length of the latter; chin-angle on a line with the anterior part of the nostril ..... 23. DENDROBATES, [p. 337.
j^7. Nasal ridge longer and reaching the cutting-edge of the maxilla at a point nearer to the tip of the maxilla than to its base; chin-angle considerably in advance of the nostril .... 24. MESOPICUS, p. 367.
d^4. First primary extremely long (from 1·75 to 1·95 in.) and far exceeding the length of the culmen.
g^5. Wing very short and rounded; tail long and equal to the longest primary ..... [p. 376. 25. XIPHIDIOPICUS,

h^5. Wing very long and pointed; tail only equal to the second primary and falling short of the longest by about an inch..... 26. Sapheopipo, p. 378.

b''. Nasal aperture exposed, not hidden by bristles or plumelets.

c'''. Tail very short in comparison with the wing, little more than half and never exceeding two thirds of its length.

e^4. Inner posterior toe distinctly developed, with distinct claw.

i^5. Bill very long, far exceeding the length of the head; nasal aperture placed low and nearer to the cutting-edge of the maxilla than to the culmen; a distinct nasal shelf..... 27. Lepocestes, p. 379.

j^5. Bill much shorter, not so long as the head; nasal aperture placed high and nearer to the culmen than to the cutting-edge of the maxilla; scarcely any nasal shelf 28. Miglyptes, p. 384.

f^4. Inner posterior toe very small, claw almost obsolete; no nasal shelf.

k^5. Wing longer, about twice the length of the tail; plumage rufous and black ..... 29. Micropternus, [p. 392.

l^5. Wing shorter, less than twice the length of the tail; plumage golden or red above..... 30. Brachypternus, [p. 403.

g^4. With three toes only, the inner posterior toe altogether absent .. 31. Tiga, p. 411.

d'''. Tail very long, nearly the length of the wing, more than two thirds of its length; culmen very much curved, slender, and pointed; without any nasal ridge; nasal aperture elongated ..... 32. Nesoceleus, [p. 419.

b'. Neck narrowed and covered with compressed plumage, close and thickset, in contrast to the large head *.

c''. Nostrils exposed.

e'''. Outer posterior toe shorter than the outer anterior toe.

h^4. With a distinct nasal ridge.

m^5. Nasal aperture rounded ..... 33. Celeus, p. 420.

n^5. Nasal aperture elongated..... 34. Cerchneipicus, [p. 436.

i^4. No distinct nasal ridge, but sometimes with a slight indication of one; bill curved, the culmen very sharp; nasal aperture rounded .. 35. Crocomorphus, [p. 439.

f'''. Outer posterior toe decidedly long; nasal shelf very distinct; nasal aperture elongated ..... 36. Chrysocolaptes, [p. 442.

* See note on *Picus, infrà*.

d''. Nostrils hidden by antrorse bristly plumes, more or less dense *.

g'''. Outer posterior toe longer than outer anterior toe.

*j*⁴. Tail very long, more than half the length of the wing; chin-angle entirely hidden by antrorse bristles; tail-feathers concave.

*o*⁵. Crest distinct, and running to a point above the nape †; plumage ordinary; bill at base broader in comparison with its depth ..... 37. CAMPOPHILUS, [p. 460.

*p*⁵. Crest extremely long, and composed of pendent feathers; plumage long and soft; plumes covering the base of the bill very dense; bill at base less broad in comparison with its depth ..... 38. IPOCRANTOR, p. 480.

*k*⁴. Tail very short; the wing three times as long as the tail; chin-angle not hidden ..... 39. HEMICERCUS, [p. 482.

h'''. Outer anterior toe longer than outer posterior toe.

*l*⁴. Feathers of the head and throat scaly and close-set; first primary long and about half the length of the second; scarcely any indication of a crest.

*q*⁵. Bill very much curved and stout, but the exposed culmen not more than the length of the head; chin-angle to tip of lower mandible about equal to distance between chin-angle and gape; nostrils densely covered with bristles ..... 40. MICROSTICTUS, [p. 489.

*r*⁵. Bill enormous and straight; the exposed culmen exceeding the length of the head; chin-angle to tip of lower mandible falling short of the distance between chin-angle and gape by about half an inch; nostrils thinly covered with bristles ..... 41. HEMILOPHUS, [p. 494.

*m*⁴. Feathers of the head and throat ordinary; crest very distinct; first primary not half the length

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* *Picus martius*, probably on account of its more northern habitat, is rather thickly clothed with feathers on the neck, and *Phlœotomus pileatus* is also rather similarly feathered; but their place seems to be with the section of Great Black Woodpeckers, with which their densely feathered nostrils proclaim their close affinity.

† The *female* of *Campophilus imperialis* has frequently the crest pendent, and in this respect approaches *Ipocrantor*.

of the second; tail rather flattened, the feathers concave only towards the tip.

s^5. Chin-angle exposed, no antrorse bristles whatever; crest moderate; tarsi not plumed down the front.

i^5. Bill very large and exceeding the length of the head; tail long, being two thirds (or more) the length of the wing ..... 42. THRIPONAX, p. 497.

j^5. Bill shorter and not exceeding the length of the head; tail less than two thirds the length of the wing ..... 43. CEOPHLŒUS, [p. 506.

t^5. Chin-angle with evident antrorse bristles, though not enough to hide the angle; upper part of tarsus feathered in front..... 44. DRYOTOMUS, p. 514.

u^5. Chin-angle entirely hidden by plumelets; nostrils thickly covered; fore part of tarsus entirely clothed with feathers.. 45. PICUS, p. 518.

B. Tail soft and rounded, not spiny.

c'. Tail short, not measuring more than from the middle of the quills to the carpal joint, sometimes less; nasal aperture entirely concealed by dense bristles. .. II. *PICUMNINÆ*, [p. 521.

e''. Orbital region entirely feathered.

i'''. Smaller, length 3·2 inches, wing 2·05; upper tail-coverts short and not nearly reaching to the middle of the tail; bastard-primary short, extending very little beyond the tips of the greater wing-coverts; bill stouter and less curved and the tip not so depressed; outer posterior toe only slightly longer than the outer anterior toe ..... 46. PICUMNUS, p. 521.

j'''. Larger, length 5 inches, wing 2·9; upper tail-coverts long and reaching nearly to the middle of the tail; bastard-primary long, extending considerably beyond the greater wing-coverts; bill more slender and curved, the tip much depressed; outer posterior toe considerably longer than the outer anterior toe.. 47. NESOCTITES, p. 552.

f''. Orbital region naked. [p. 553.

k'''. With four toes..... 48. VERREAUXIA,

l'''. With three toes ..... 49. SASIA, p. 554.

d'. Tail long, equal in length to the longest primary from the base; nasal aperture not concealed by bristles, but partially hidden by a membrane ..... III. *IYNGINÆ*, p. 559.

One genus only ..... 50. IYNX, p. 559.

Subfamily I. PICINÆ.

1. GEOCOLAPTES.

Type.
Geocolaptes, *Swains. Faun. Bor.-Am., Birds*, p. 315 (1831) G. olivaceus.
Agripicus, *Malh. Intr. Monogr. Picid.* p. liii (1861) .... G. olivaceus.

Range. Cape Colony and Natal.

1. Geocolaptes olivaceus.

Crimson-breasted Woodpecker, *Lath. Gen. Syn.* i. pt. 2, p. 599 (1783).
Picus olivaceus, *Gm. Syst. Nat.* i. p. 431 (1788, *ex Lath.*); *Less. Traité*, p. 218 (1831).
Le Pic Laboureur, *Levaill. Ois. d'Afr.* vi. p. 27, pls. 254, 255 (1808); *Sundev. Krit. Framst. Levaill.* p. 52 (1857).
Picus arator, *Cuvier, Règne Anim.* i. p. 423, *ex Levaill.* (1817); *Wagler, Syst. Av.*, Picus, sp. 86 (1827); *Sundev. Consp. Av. Picin.* p. 68 (1866).
Picus terrestris, *Burch. Trav. in South Afr.* i. p. 254 (1824).
Colaptes olivaceus, *Steph. Gen. Zool.* xiv. p. 171 (1826); *Gray, Gen. B.* ii. p. 446 (1846); *Layard, B. S. Afr.* p. 239 (1867); *Gray, List Picid. Brit. Mus.* p. 123 (1868); *id. Hand-l. B.* ii. p. 203, no. 8837 (1870).
Geocolaptes terrestris, *Swains. Faun. Bor.-Am., Birds*, p. 315 (1831, *ex Burch.*), note; *id. Classif. B.* ii. p. 389 (1837).
Geocolaptes olivaceus, *Gray, List Gen. B.* 1840, p. 55; *Gurney, Ibis*, 1868, p. 462; *Sharpe, Cat. Afr. B.* p. 18 (1871); *Sundev. Av. Meth. Tent.* p. 73 (1872); *Buckley, Ibis*, 1874, p. 368; *Sharpe, ed. Layard's B. S. Afr.* p. 187 (1875); *Butler, Feilden, & Reid, Zool.* 1882, p. 208; *Hargitt, Ibis*, 1883, p. 403; *Symonds, op. cit.* 1887, p. 330.
Geopicus arator, *Malh. Mém. Acad. Metz*, 1848–1849, p. 359; *id. Picidæ*, ii. p. 274, pl. cxi. figs. 1, 2 (1862).
Geocolaptes arator, *Bonap. Consp. Av.* i. p. 113 (1850); *Reichenb. Handb. Scans. Picinæ*, p. 429, pl. dclxxvii. figs. 4477–4479; *Bp. Consp. Volucr. Zygod.* p. 9 (1854).

Adult male. Above, including scapulars, wing-coverts, and upper tail-coverts, olivaceous brown, the rump washed with crimson and, together with the upper tail-coverts, narrowly barred with buffy white, the remainder minutely spotted with dull white; quills brown, spotted with white upon both webs, the secondaries externally margined with olive; shafts yellowish brown; tail brown, barred with pale buff, the central feathers tipped with orange-red; shafts orange-brown; nasal plumes dusky; the whole of the top of the head, occiput, and nape, also the face, slaty grey tinged with olive, the feathers of the malar region tipped with dull crimson; sides of the neck olive-dusky, spotted with fulvescent white; chin, throat, and fore neck pale buff, the chest, breast, and abdomen also pale buff, more or less washed with crimson; the sides of the body, flanks, thighs, and under tail-coverts olive-dusky, barred with creamy or buffy white; under wing-coverts and axillaries dusky olive, barred with dull white: "bill black; tarsus black; iris orange" (*T. E. Buckley*). Total length 9·8 inches, culmen 1·5, wing 5·3, tail 3·7, tarsus 1; toes (without claws)—outer anterior 0·78, outer posterior 0·78, inner anterior 0·55, inner posterior 0·4.

Adult female. Has no red on the malar region, this being entirely slaty grey. Total length 9·5 inches, culmen 1·5, wing 5·3, tail 3·5, tarsus 1.

Young. Resemble the adult of their respective sexes, but have the upper parts less olive and the crimson on the rump not so vivid; the under surface of the body is also very much less crimson, being of a buff colour, with only a blush of crimson, mottled and transversely varied with olive-dusky and buffy whitish; the under tail-coverts with sagittate spots (not bars) of olive-dusky. The male has the feathers of the malar region tipped with crimson, as in the older birds of the same sex.

Hab. Cape Colony and Natal; common.

a. ♂ ad.; *b*. ♀ imm. sk.	S. Africa.	J. Rocke, Esq. [P.].
c. ♀ ad. sk.	Cape of Good Hope.	Riocour Coll.
d. ♂ ad. st.	Cape.	Purchased.
e, *f*. ♂ ad. sk.	Cape.	Purchased.
g. ♂ ad. sk.	Cape (*Butler*).	Tweeddale Coll.
h. ♀ ad. sk.	Cape (*E. A. Butler*).	Shelley Coll.
i. ♂ ad. sk.	Cape, April 24, 1866.	Tweeddale Coll.
k. Ad. sk.	Cape Town, April 24, 1866 (*C. J. Andersson*).	Sharpe Coll.
l. ♂ ad. sk.	Colesberg (*T. C. Atmore*).	Shelley Coll.
m, *n*. ♂ ♀ juv. sk.	Natal (*Ayres*).	Sharpe Coll.
o. ♂ imm. sk.	Natal, May (*T. E. Buckley*).	Shelley Coll.
p. ♀ ad. sk.	Pietermaritzberg, May (*T. E. Buckley*).	Shelley Coll.
q–*s*. ♂ ad. sk.	Newcastle, May, Oct. (*E. A. Butler*).	Shelley Coll.

2. COLAPTES.

	Type.
Colaptes, *Swains. Zool. Journ.* 1827, p. 353	C. auratus.
Cucupicus, *Less. Man. d'Orn.* ii. p. 116 (1828)	C. auratus.
Soroplex, *Glog. Hand. Naturg.* p. 198 (1842)	C. campestris.
Geopicos, *Malh. Mém. Acad. Metz*, 1848–49, p. 357 ..	C. campestris.
Malherbipicus, *Bp. Consp. Volucr. Zygod.* no. 226 (1854)	C. campestris.
Pituipicus, *Bp. Consp. Volucr. Zygod.* no. 236 (1854) ..	C. chilensis.
Theiopicus, *Malh. Introd. Monogr. Picid.* p. liii (1861).	C. campestris.

Range. Throughout North America to Alaska; Central and South America to Chili and Patagonia; also in the West-Indian Islands, Cuba, and the Grand Cayman.

Key to the Species.

A. Underside of wings and of tail at the base yellow.
  a'. Top of the head grey (the feathers tipped with red in young); with scarlet nuchal band; face, throat, and fore neck vinaceous buff.
    a''. Rump uniform white; lores and superciliary stripe strongly rufous.
      a'''. With black malar stripe ..... *auratus* ♂ ad., p. 13.
      b'''. With no malar stripe ..... *auratus* ♀ ad., p. 14.

b''. Rump varied with black; lores and superciliary stripe less rufous.
c'''. Larger: length 11 inches, wing 5·5; rump spotted with black; underside of lateral tail-feathers not distinctly banded; first primary much shorter. [p. 15.
*a*⁴. With black malar stripe ..... *chrysocaulosus* ♂ ad.,
*b*⁴. With no malar stripe ..... *chrysocaulosus* ♀ ad.,
d'''. Smaller: length 8·9 inches, wing 5·2; rump heavily blotched with black; underside of lateral tail-feathers distinctly banded; first primary much longer. [p. 15.
*c*⁴. With black malar stripe ..... *gundlachi* ♂ ad., p. 15.
*d*⁴. With no malar stripe ..... *gundlachi* ♀ ad., p. 15.
b'. Top of the head pale rufous or cinnamon-brown; with no red nuchal band: sides of face and neck, chin and throat blue-grey.
c''. With scarlet malar stripe ..... *chrysoides* ♂ ad., p. 16.
d''. With no malar stripe ..... *chrysoides* ♀ ad., p. 16.
B. Underside of wings and of tail at the base orange-red.
c'. Above vinous-brown, more or less dark, brownish grey, or dusky brown, narrowly barred with black; top of the head brown, more or less rufous anteriorly; face and neck blue-grey or drabby slate-grey; underparts pinky white, with more or less vinous or rufescent tinge.
e''. With scarlet malar stripe ..... *mexicanus* ♂ ad., p. 18.
f''. Generally with a slight malar stripe of cinnamon-brown; occasionally with this stripe very distinct, in some specimens absent ..... *mexicanus* ♀ ad., p. 18.
d'. Above blackish brown, narrowly barred with rufescent buff; top of the head, occiput, and nape rich rufous. [p. 21.
g''. With scarlet malar stripe ..... *mexicanoides* ♂ ad.,
h''. With rufous malar stripe ..... *mexicanoides* ♀ ad.,
C. "Yellow shafts of feathers on wing and tail combined with red or red-spotted cheek-patches; orange-red shafts combined with a well-defined nuchal red crescent and pinkish throat; ash-coloured throat combined with black cheek-patch or yellow shafts; shafts and feathers intermediate between gamboge-yellow and orange-red" * ..... *ayresi*, p. 22.
D. Underside of wings pale golden or golden buff, or yellowish white; tail black above and below, without any red or yellow at the base.
e'. Sides of the face and neck, also the fore neck, bright golden yellow inclining to orange (paler in the young); top of the head black.

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* These are the specific characters given by Baird, Brewer, and Ridgway (N. Amer. B. ii. p. 582), founded upon a large series of specimens, and for conciseness are all that is required.

i''. Chin and throat black, the upper part sometimes striped with white.
e'''. Malar stripe mulberry-red ..... *campestris* ♂ ad., p. 24.
f'''. Malar region black, the feathers margined or spotted at the tip with white *campestris* ♀ ad., p. 24.
g'''. Malar region uniform black ..... *campestris* juv., p. 24.
j''. Chin and throat white.
h'''. Malar stripe mulberry-red, the feathers tipped with white ..... *agricola* ♂ ad., p. 25.
i'''. Malar stripe dusky black, the feathers tipped with white ..... *agricola* ♀ ad., p. 25.
k''. Throat greyish, with a few minute blackish specks ..... *agricola* juv., p. 25.
f. With no yellow on the face or neck.
l''. Ground-colour of the face, neck, and chest sandy buff, creamy buff on the underparts and on the rump and upper tail-coverts; the fore neck and chest with heart-shaped or transverse spots of black.
j'''. With no red on the nape in either sex.
*e*⁴. Malar stripe crimson posteriorly .... *rupicola* ♂ ad., p. 26.
*f*⁴. With no red on malar stripe ..... *rupicola* ♀ ad., p. 27.
k'''. With the nape red in both sexes.
*g*⁴. Malar stripe red posteriorly..... *puna* ♂ ad., p. 27.
*h*⁴. With no red on malar stripe ..... *puna* ♀ ad., p. 27.
m''. Ground-colour of the face, neck, and chest rufous buff, grading into rich golden buff on the underparts, the rump and upper tail-coverts paler and yellower; with numerous narrow black bars on the fore neck and chest; with no red on the nape in either sex. [p. 28.
l'''. Malar stripe dull crimson posteriorly.. *cinereicapillus* ♂ ad.,
m'''. With no red on malar stripe..... *cinereicapillus* ♀ ad., [p. 27.
n''. Ground-colour of the under surface of the body almost white; the rump pure white.
n'''. Malar region narrowly striped with crimson..... *pitius* ♂ ad., p. 28.
o'''. Malar region devoid of red, and having a few dusky spots ..... *pitius* ♀ ad., p. 29.

1. Colaptes auratus.

Picus auratus, *Linn. Syst. Nat.* i. p. 174 (1766); *Gm. Syst. Nat.* i. p. 430 (1788); *Lath. Ind. Orn.* i. p. 242 (1790); *Barton, Nat. Hist. Penn.* pp. 1, 11 (1799); *Vieill. Ois. Amér. Sept.* p. 66, pl. cxxiii. ♂ (1807); *Bp. Syn. B. U. S.* p. 44 (1826); *Wagl. Syst. Av.*, Picus, sp. 84 (1827); *Less. Traité*, i. p. 228 (1831); *Aud. Orn. Biogr.* i. p. 191, pl. xxxvii. figs. 1, 2, ♂ ♀ ad. (1831); *Jard. ed. Wils. Amer. Orn.* i. p. 43, pl. iii. fig. 1, ♂ (1832); *Nutt. Man. Orn.* 1832, p. 561; *Aud. B. Amer.* iv. p. 282, pl. 273, ♂ ♀ ♀ (1839); *id. Orn. Biogr.* v. p. 540 (1839); *Peab. Bost. Journ. Nat. Hist.* 1841, p. 168; *Putn. Proc. Essex Inst.* 1856, p. 214; *Sundev. Consp. Av.* p. 71 (1866).

Colaptes auratus, *Swains. Faun. Bor.-Amer.* ii. pp. xxvi Introd. & 314 (1831); *id. Classif. B.* ii. p. 310 (1837); *Bp. Comp. List B. Eur. & N. Amer.* p. 40, no. 265 (1838); *De Kay, Nat. Hist. N. York*, ii. p. 192, pl. xv. fig. 33 (1844); *Bp. Consp. Gen. Av.* i.

p. 113 (1850); *Reichenb. Scans. Picinæ*, p. 412, no. 970, pl. dclxvi. figs. 4419-20, ♂ ♀ (1854); *Bp. Consp. Volucr. Zygod.* p. 11, no. 229 (1854); *Baird, B. N. Amer.* p. 118 (1858); *Reinh. Ibis*, 1861, p. 8; *Sel. Cat. Amer. B.* p. 344, no. 2053 (1862); *Verrill, Proc. Essex Inst.* 1862, p. 144; *Cav. Tayl. Ibis*, 1862, p. 128; *Blakist. Ibis*, 1862, p. 3, 1863, p. 53; *Allen, Proc. Essex Inst.* 1864, p. 53; *Dresser, Ibis*, 1865, p. 470; *McIlwr. Proc. Essex Inst.* 1866, p. 83; *Coues, op. cit.* 1867, p. 263; *Baird, Ibis*, 1867, p. 280; *Gray, List Picid. Brit. Mus.* p. 120 (1868); *Dall & Bann. Trans. Chic. Acad.* 1869, p. 275; *Gray, Hand-l. B.* ii. p. 202, no. 8828 (1870); *Coues, B. N.-West*, p. 292 (1874); *B., B., & R. Hist. N. Amer. B.* ii. p. 575, pl. lv. figs. 1 ♂ ad., 2 ♀ ad. (1874); *Brewst. Ann. Lyc. N. York*, 1875, p. 144; *Ridgw. Bull. Essex Inst.* 1875, p. 38; *Coues, Bull. U. S. Geol. Surv.* iv. no. 3, p. 617 (1878); *Cory, Mayd. Isl.* p. 52 (1878); *Mayn. B. Florid.* p. 231, pl. xviii. (1878); *Ridgw. Proc. U. S. Nat. Mus.* 1880, p. 190, no. 378; *Merriam, Bull. Nutt. Orn. Club*, 1882, p. 237; *Coues, Check-list N. Am. B.* 2nd ed., 1882, p. 79; *Stearns, Proc. U. S. Nat. Mus.* 1883, p. 118; *Coues, Key N. Amer. B.* 2nd ed., 1884, p. 493; *Turn. Proc. U. S. Nat. Mus.* 1885, p. 242; *Agersb. Auk*, 1885, p. 284; *Ball, t. c.* p. 383; *A. O. U. Check-list N. Amer. B.* p. 217 (1886); *Brewst. Auk*, 1886, p. 104; *Sennett, t. c.* p. 242; *Thorne, t. c.* p. 264; *Ridgw. Man. N. Amer. B.* p. 295 (1887); *Warren, B. Penn.* p. 137 (1888); *Scott, Auk*, 1889, p. 252.

Geopicos auratus, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 359.

Geopicus auratus, *Malh. Picidæ*, ii. p. 255, pl. cix. figs. 5–7, ♂ ♀ ad., ♂ juv. (1862).

Adult male. Back, scapulars, and wing-coverts drabby brown, narrowly barred with black; rump uniform white; upper tail-coverts white, barred and varied with black; quills blackish brown, the outer webs of the primaries with a few drabby-white spots on the basal portion, the inner webs more or less margined with buffy white; outer webs of primaries spotted along their whole length with drab-brown, the inner webs margined and scalloped with buffy white, the innermost secondaries barred across both webs with drab-brown; shafts of quills golden yellow; tail black, the outer large feather with a few buffy-white specks on the outer web and the tip white; shafts of central pair of feathers black with yellowish bases, those of the remainder golden yellow, with more or less of the apical portion black; entire top of the head and posterior part of neck smoky slate-grey; nuchal band scarlet; nasal plumes, lores, and superciliary region rufous; face, chin and throat, and the whole anterior portion of the neck rufescent drab with a vinous tinge; malar stripe black, and upon the chest a broad crescentic patch of black; under surface of the body white, more or less washed with vinous or rufescent drab and covered with rounded black spots; under tail-coverts white, with bars and varied spots of black; under wing-coverts pale golden buff, the edge of the wing white and spotted with black; axillaries golden white; underside of quills and of tail-feathers, except at the tip, and of all the shafts golden yellow. Total length 11·5 inches, culmen 1·73, wing 6·65, tail 4·45, tarsus 1·2; toes (without claws)—outer anterior 0·83, outer posterior 0·73, inner anterior 0·65, inner posterior 0·35.

Adult female. Resembles the adult male, but wants the black malar stripe. Total length 11·5 inches, culmen 1·63, wing 6·2, tail 4·2, tarsus 1·1.

Hab. Eastern United States west to the Great Plains, and north to Hudson's Bay and Alaska, occurring occasionally on the Pacific slope of the Rocky Mountains from California northwards.

a. ♂ ad.; *b*, *c*. ♀ ad. sk.	North America.	J. Gould, Esq.
d. ♂ ad. sk.	North America.	Sclater Coll.
e. ♂ ad. sk.	Canada (*Bush*).	Tweeddale Coll.
f, *g*. ♂ ad. sk.	Hudson's Bay.	Gould Coll.
h. ♂ ad. sk.	Fort York, Hudson's Bay	Dr. Rae [P.].
i. ♂ ad. sk.	Fort Dufferin, June.	N.A. Boundary Commission.
k. ♂ ad. sk.	49th Parallel.	N.A. Boundary Commission.
l. ♂ ad. sk.	Michigan.	Professor Steere [P.].
m. ♂ ad. sk.	Ontonagon, Michigan, Sept.	Salvin-Godman Coll.
n. ♂ ad. sk.	Albany, New York (*J. H. Hurst*).	Tweeddale Coll.
o, *p*, *q*. ♂ ad.; *r*. ♀ ad. sk.	Lyons Falls, N.Y., June (*A. Jennings Dayan*.	Henshaw Coll. [S.-G.].
s, *t*. ♂ juv.; *u*. ♀ ad. sk.	Lowville, N.Y., July (*A. J. D.*).	
v–*a'*. ♂ ad. sk.	Sing Sing, N.Y., Sept. (*Hart Merriam*).	
b'–*i'*. ♂ ad. et juv.; *k'*–*m'*. ♀ ad. sk.	Locust Grove, N.Y., April, July (*Hart Merriam*).	
n'. ♂ ad. sk.	East Hampton, Mass., May (*Hart Merriam*).	
o'. ♀ ad. sk.	Hyde Park, Illinois, April.	R. B. Sharpe, Esq. [P.].
p'. ♀ ad. sk.	Englewood, Ill., April.	Henshaw Coll. [S.-G.].
q'. ♂ ad. sk.	Mt. Carmel, Ill., Oct.	
r', *s'*. ♂ ad.; *t'*. ♀ ad. sk.	Calumet, Ill., Sept., Oct. (*W. E. Nelson*).	
u'–*z'*. ♂ ad. et juv.; *a''*–*f''*. ♀ ad. sk.	Washington, D.C., March, April, May, Aug., Oct., Nov., Dec.	
g''. ♀ ad. sk.	St. Mary's Co., Indiana, Sept. (*E. Coues*).	Salvin-Godman Coll.
h''. ♀ ad. sk.	Florida.	W. B. Dismore, Esq. [P.].
i'', *k''*. ♂ ♀ ad. sk.	Cedar Keys, Florida, Dec.	Henshaw Coll. [S.-G.].
l''. ♂ ad. sk.	Cape Canaveral, Florida, Aug. (*W. Hoxie*).	
m'', *n''*. ♂ ♀ ad. sk.	St. Lucia, Florida, Sept., Oct.	
o'', *p''*. ♂ ad. sk.	Fort Dunn, Florida, Oct. (*W. Hoxie*).	
q''. ♂ ad. sk.	Melbourne, Florida, Sept. (*W. Hoxie*).	
r''–*y''*. ♂ ad. et imm. sk.; *z''*–*d*³. ♀ ad. et imm. sk.	Tarpon Springs, Florida, Oct., Dec., Febr. (*W. E. D. Scott*).	Salvin-Godman Coll.

e^3. ♂ ad. sk.	Okahumka, Florida, Apr.	Salvin-Godman Coll.
f^3. ♂ ad. sk.	San Patricia, Texas, Dec. (*F. B. Armstrong*).	Salvin-Godman Coll.
g^3. ♀ ad. sk.	Papalote, Bee Co., Texas, Jan. (*F. B. Armstrong*).	Salvin-Godman Coll.
h^3. ♀ ad. sk.	Texas (*F. B. Armstrong*).	Salvin-Godman Coll.

2. Colaptes chrysocaulosus.

Colaptes auratus (*non Linn.*), *Vig. Zool. Journ.* iii. p. 444 (1828); *Ramon de la Sagra, Hist. Fis. &c. Cuba*, ii. p. 110 (1838); *d'Orb. in Sagra's Hist. Phys. &c. Cuba*, p. 144 (1839); *Denny, P. Z. S.* 1847, p. 39; *Lembeye, Av. Isl. Cuba*, p. 131 (1850); *Cab. J. f. O.* 1856, p. 103.

Colaptes chrysocaulosus, *Gundl. Ann. Lyc. Nat. Hist. N. York*, 1858, p. 273; *Brewer, Proc. Bost. Soc. Nat. Hist.* 1860, p. 307; *Albrecht, J. f. O.* 1861, p. 210; *Gundl. Repert. Fis. Nat. Cuba*, i. p. 294 (1866); *Scl. & Salv. Nomencl. Av. Neotr.* p. 101 (1873); *Gundl. J. f. O.* 1874, p. 153; *id. Contr. Orn. Cuba*, p. 274 (1876); *Cory, List B. W. Ind.* p. 20 (1885); *id. Auk*, 1886, p. 380; *Ridgw. Man. N. Amer. B.* p. 295 (1887).

Colaptes auratus, var. chrysocaulosus, *B., B., & R. Hist. N. Amer. B.* ii. p. 575 (1874).

Adult female. Differs from *C. auratus* in having the rump spotted with black; the lores and superciliary stripe less rufous; the throat, fore neck, and side of the neck are less vinaceous, and the latter is not so grey near the hind neck; the underside of the tail, at the base, is of a deeper golden yellow. In other respects the present species resembles so closely *C. auratus*, that a detailed description is unnecessary. Total length 11 inches, culmen 1·45, wing 5·5, tail 4·05, tarsus 1·05; toes (without claws)—outer anterior 0·82, outer posterior 0·75, inner anterior 0·57, inner posterior 0·45.

Adult male. "Has a black malar stripe, but is otherwise like the female. Length 10·5 inches, wing 5·4, tail 4·5, tarsus 0·8, bill 1·2." (*Cory.*)

Hab. Cuba.

a. ♀ ad. sk.	Cuba (*J. Gundlach*).	Salvin-Godman Coll.
b. ♀ ad. sk.	Cuba.	Sclater Coll.

3. Colaptes gundlachi.

Colaptes gundlachi, *Cory, Auk*, 1886, pp. 498, 502; *id. op. cit.* 1888, p. 159.

"*Sp. Char.* Resembles *Colaptes chrysocaulosus*, but is smaller, the yellow of the quills much brighter; under surface of the outer tail-feathers distinctly banded; feathers of the rump white, heavily blotched with black; shafts of the quills and tail very bright yellow; first primary much longer than in the Cuban species. Length 8·90 inches, wing 5·20, tail 4, tarsus 0·85, bill 1·10." (*Cory.*)

Hab. Island of Grand Cayman, West Indies.

4. Colaptes chrysoides.

Geopicus chrysoides, *Malh. Rev. et Mag. de Zool.* 1852, p. 553; *id. Picidæ*, ii. p. 261, pl. cix. figs. 1–4 (1862).

Colaptes chrysoides, *Reichenb. Scans. Picinæ*, p. 413, no. 971 *b* (1854); *Bp. Consp. Volucr. Zygod.* p. 11, no. 231 (1854); *Baird, B. N. Amer.* p. 125 (1858)*; *id. U. S. & Mex. Bound. Surv., Bds.* p. 6 (1858); *Sclat. Cat. Amer. B.* p. 344, no. 2055 (1862); *Gray, List Picid. Brit. Mus.* p. 120 (1868); *Elliot, New & Unfig. B. N. Amer.* i. pl. xxvi. ♂ ♀ ad. (1869); *Coop. B. Calif. ed. Baird*, p. 410 (1870); *Gray, Hand-l. B.* ii. p. 202, no. 8834 (1870); *B., B., & R. Hist. N. Amer. B.* ii. p. 583, pl. liv. figs. 1, 2, ♂ ♀ ad. (1874); *Ridgw. Proc. Essex Inst.* 1875, p. 38; *id. Proc. U. S. Nat. Mus.* 1880, p. 190, no. 379; *Beld. op. cit.* 1882, p. 543; *Coues, Check-list N. Amer. B.* 2nd ed. p. 79, no. 458 (1882); *Beld. Proc. U. S. Nat. Mus.* 1883, pp. 344–349; *Coues, Key N. Amer. B.* 2nd ed. p. 493 (1884); *Scott, Auk*, 1886, p. 429; *A. O. U. Check-list N. Amer. B.* p. 218, no. 414 (1886); *Ridgw. Man. N. Amer. B.* p. 295 (1887).

Picus chrysoides, *Sundev. Consp. Av. Picin.* p. 72 (1866).

Adult male. Is smaller than *C. auratus* and *C. mexicanus*, both of which it resembles in certain points. It differs from *C. auratus* in having the top of the head and the nape cinnamon-brown, the red nuchal band being wanting; the sides of the face and neck, chin, throat, and fore neck slate-grey, with a scarlet malar stripe; the underside of the tail having more of its apical portion black; the tail-shafts entirely black above. The present species mainly differs from *C. mexicanus* in having the underside of the quills and of the tail on its basal half golden yellow; the shafts of the quills above and below, and those of the tail-feathers below, on the yellow webs, are also golden-yellow, the tail-shafts above entirely black; the top of the head and the nape are paler and of a cinnamon-brown. Total length 10 inches, culmen 1·45, wing 5·45, tail 3·7, tarsus 1·07; toes (without claws)—outer anterior 0·7, outer posterior 0·65, inner anterior 0·55, inner posterior 0·35.

Adult female. Has no malar stripe whatever, but is otherwise like the adult male. Total length 9·8 inches, culmen 1·45, wing 5·4, tail 3·55, tarsus 1·05.

Young female. Has the top of the head of a much duller pale brown (not clear cinnamon), and a distinct malar stripe of a rather lighter colour; the spots on the underparts are less intense black and those on the breast very much smaller; upon the chest there is only a small patch of black, and the feathers composing it are margined at the tip with grey; the primaries tipped with dull white, and the underside of the wings and of the tail, on its basal half, less brilliant yellow.

Hab. South-eastern California, extending into Nevada, Lower California, Southern Arizona, and Sonora.

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* Possibly not true *C. chrysoides*, but probably a hybrid between it and *C. mexicanus*, judging by the orange tinge in the colour of the quill-shafts.

a. ♂ imm.; *b*. ♀ ad. sk.	La Paz, Lower California, April (*A. Forrer*).	Salvin-Godman Coll.
c, d. ♂ ad. sk.	La Paz, Dec., Feb. (*A. Abott Frazar, Hensh. Coll.*).	Salvin-Godman Coll.
e, f. ♂ ad. sk.	Triumfo, Lower California (*A. Abott Frazar, Hensh. Coll.*).	Salvin-Godman Coll.
g. ♀ imm. sk.	Todos Santos, Lower California (*J. Xantus*).	Tweeddale Coll.
h. ♀ ad. sk.	San José, Lower California, April (*Hensh. Coll.*).	Salvin-Godman Coll
i, k, l. ♂ juv. sk.	Cape San Lucas.	Salvin-Godman Coll.
m. ♂ ad. sk.	Cape San Lucas (*J. Xantus*).	Sclater Coll.
n, o. ♂ ad.; *p–s*. ♀ ad. sk.	Tucson, Arizona, Dec., March (*Hensh. Coll.*).	Salvin-Godman Coll.
t. Pull. sk.	Fort Lowell, Arizona, May (*Hensh. Coll.*).	Salvin-Godman Coll
u, v. ♂ ad. sk.	Sonora, Mexico, April (*W. Lloyd*).	Salvin-Godman Coll.
w. ♂ ad. sk.	Ysleta, Sonora, May (*W. Lloyd*).	Salvin-Godman Coll.
x. ♀ ad. sk.	Hermosillo, Sonora, Dec.	Salvin-Godman Coll.

5. Colaptes mexicanus.

Golden-winged Woodpecker, var. A, *Lath. Gen. Syn.* ii. p. 59 (1782).

Picus cafer *, *Gm. Syst. Nat.* i. p. 431 (1788); *Lath. Ind. Orn.* i. p. 242 (1790).

Picus lathami, *Wagl. Syst. Av.*, Picus, sp. 85 (1827).

Colaptes mexicanus, *Swains. Phil. Mag.* 1827, p. 440; *id. Faun. Bor.-Amer.* ii. pp. xxvi Introd. & 315 (1831); *Jard. ed. Wils. Amer. Orn.* i. pp. 43, 44 (note) (1832); *Swains. Classif. B.* ii. p. 311 (1837); *Heerm. Journ. Acad. Philad.* 1853, p. 270; *Sclat. P. Z. S.* 1856, p. 307; *id. op. cit.* 1857, p. 127; *id. op. cit.* 1858, p. 305; *Baird, B. N. Amer.* p. 120 (1858); *id. U. S. & Mex. Bound. Surv.* 1858, p. 6; *Sclat. P. Z. S.* 1859, pp. 236, 367; *id. Cat. Amer. B.* p. 344, no. 2054 (1862); *Blakist. Ibis*, 1862, p. 3; *Sclat. P. Z. S.* 1864, p. 177; *Coues, Ibis*, 1865, p. 163; *Dresser, t. c.* p. 470; *Coues, Proc. Essex Inst.* 1867, p. 263; *Baird, Ibis*, 1867, p. 280; *Brown, op. cit.* 1868, p. 419; *Gray, List Picid. Brit. Mus.* p. 121 (1868); *Dall & Bann. Trans. Chic. Acad.* 1869, p. 275; *Gray, Hand-l. B.* ii. p. 202, no. 8830 (1870); *Coop. B. Calif. ed. Baird*, p. 408 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 101 (1873); *Coues, B. N.-West.* p. 294 (1874); *B., B., & R. Hist. N. Amer. B.* p. 578, pl. lv. figs. 3, 4, ♂ ♀ ad. (1874); *Hensh. U. S. Geogr. Surv. W. of 100th Merid.* 1875, p. 400; *Ridgw. U. S. Geol. Expl. 40th Par.* pt. iii. *Orn.* p. 555 (1877); *Coop. Proc. U. S. Nat. Mus.* 1879, p. 250; *Coues, Check-list N. Amer. B.* 2nd ed. 1882, p. 80; *Salvin, P. Z. S.* 1883, p. 425; *Coues, Key N. Amer. B.* 2nd ed. 1884, p. 493; *Scott, Auk*, pp. 174, 356; *Ferrari-Perez, Proc. U. S. Nat. Mus.* 1886, p. 160.

Picus rubricatus (♂), *Wagl. Isis*, 1829, p. 516; *Bp. Consp. Gen. Av.* i. p. 114 (1850).

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* Gmelin's name of *P. cafer* may have priority; but being founded on a bird supposed to have come from the Cape of Good Hope, it is misleading, and I prefer adhering to the well-known title of *C. mexicanus* of Swainson.

Colaptes collaris, *Vig. Zool. Journ.* 1829, p. 534; *id. Zool. Beechey's Voy.* p. 23, pl. ix. ♂ ad. (1839); *Wagn. Arch. für Naturg.* 1841, p. 100; *Reichenb. Scans. Picinæ*, p. 414, no. 973, pl. dclxvii. fig. 4424, ♂ (1854).

Picus mexicanus, *Aud. B. Amer.* pl. cccexvi. figs. 5 ♂, 6 ♀ ad. (1835–38); *id. Orn. Biogr.* v. p. 174 (1839); *id. B. Am.* 8vo, iv. p. 290, pl. cclxxiv. ♂ ♀ ad. (1839); *Sundev. Consp. Av. Picin.* p. 72 (1866).

Colaptes rubricatus, *Bp. Comp. List B. Eur. & N. Amer.* p. 40, no. 266 (1838); *id. Consp. Volucr. Zygod.* p. 11, no. 232 (1854); *Licht. Nomencl. Av.* p. 77 (1854); *Reichenb. Scans. Picinæ*, p. 413, no. 972, pl. dclxvi. figs. 4422–23, ♂ ♀ (1854).

Colaptes collaris, *Reichenb. Scans. Picinæ*, p. 414, no. 973, pl. dclxvii. fig. 4424, ♂ (1854).

Geopicus mexicanus, *Malh. Picidæ*, ii. p. 262, pl. cx. figs. 4, 5, ♂ ♀ ad. (1862).

Colaptes auratus mexicanus, *Ridgw. Proc. Essex Inst.* 1874, p. 171; *id. op. cit.* 1875, pp. 13–34; *id. Proc. U. S. Nat. Mus.* 1880, p. 190, no. 378 *b*; *Hensh. Auk*, 1886, p. 79.

Colaptes auratus, var. mexicanus, *Ridgw. Proc. Essex Inst.* 1875, p. 38; *Beld. Proc. U. S. Nat. Mus.* 1878, p. 430.

Colaptes mexicanus rufipileus, *Ridgw. Bull. U. S. Geol. & Geogr. Surv. Terr.* ii. no. 2, p. 191 (1876).

Colaptes rufipileus, *Ridgw. Bull. Nutt. Orn. Club*, ii. p. 60 (1877); *id. Proc. U. S. Nat. Mus.* 1880, p. 190, no. 380; *A. O. U. Check-list N. Amer. B.* p. 218 (1886); *Ridgw. Man. N. Amer. B.* p. 296 (1887).

Colaptes mexicanus saturatior, *Ridgw. Proc. Biol. Soc. Wash.* ii. p. 90 (1882–4).

Colaptes cafer, *A. O. U. Check-list N. Amer. B.* p. 218 (1886); *Scott, Auk*, 1886, p. 428; *Lloyd, op. cit.* 1887, p. 191; *Ridgw. Man. N. Amer. B.* p. 296 (1887).

Colaptes cafer saturatior, *A. O. U. Check-list N. Amer. B.* p. 218 (1886); *Ridgw. Man. N. Amer. B.* p. 296 (1887).

Adult male. Differs from *C. auratus* in having the top of the head and the posterior portion of the neck brown like the back, the forehead more rufescent; the face, chin and throat, and the entire anterior portion of the neck slaty grey; malar stripe scarlet; the underside of the quills and of the tail-feathers, except at the tip, and likewise of all the shafts orange-red; the shafts of the quills and of the tail-feathers above are also orange-red, except the greater portion of those of the central pair of tail-feathers and of the apical portion of those of the lateral feathers. There are other minor differences. Total length 10·5 inches, culmen 1·55, wing 6, tail 3·8, tarsus 1·12; toes (without claws)—outer anterior 0·8, outer posterior 0·75, inner anterior 0·62, inner posterior 0·38.

Adult female. Differs from the adult male in wanting the red malar stripe, this being replaced by a spot of cinnamon-brown at the base of the lower mandible, and an almost obsolete trace of this colour occupying the same tract the red does in the opposite sex. Total length 10·5 inches, culmen 1·35, wing 6·25, tail 4·4, tarsus 1·12.

Specimens from Vancouver Island are of large size and have the top of the head and the back dark, and the underparts deeply

washed with rufescent vinaceous or vinaceous pink; the female having the cinnamon-brown malar stripe often very clearly defined and large. Examples from California and Nevada are somewhat similar, but, as a rule, the malar stripe in the female is less defined. In a young female from Colorado the malar stripe is well marked. Chihuahua birds have the back lighter grey, and the top of the head more rufous anteriorly, while Ciudad Durango specimens have the back and the top of the head dark. In San Luis Potosi the birds are intermediate; those from Aguas Calientes have the head and back dark, but grey, particularly the head; the neck clear slate-grey, and the underparts slaty pink or vinaceous. Examples from Cofre de Perote are very dark on the head and back, and, as in the Guerrero (Omilteme) birds, the forehead is sometimes rufous anteriorly; the underparts are vinous-slate or vinous-pink, the latter in the older birds, and the neck is less brown in older specimens. An example from Jalapa is scarcely separable from a Nevada specimen, but it has less rufous on the sinciput; the underparts are vinous-pink. At Omilteme, Guerrero, and in the Sierra Madre del Sur this species resembles the Vancouver Island bird, but is smaller; it has the back and the head very dark and brown, and the neck browner than in typical examples; the underparts are vinous or pinkish buff as in Vancouver birds, but this colour is scarcely so intense. An Oaxaca specimen is rufous-brown above, and rufous on the head, and the underparts are vinous-pink.

The varied forms of *C. mexicanus* appear to be the result of climatic influence, as they are not confined to any particular geographical area. An examination of a very large series of specimens convinces me that they cannot well be separated. The close resemblance in colour between the Vancouver birds and those from the State of Guerrero, and also between an example from Nevada and one from Jalapa, precludes the possibility of recognizing any of the forms as subspecies occupying a fixed area.

Hab. Mexico (generally), except the eastern portion north of Vera Cruz, south into Oaxaca; north through the Western United States to Sitka *; also found in Guadalupe Island, Lower California.

a. ♂ ad.; *b*. Juv. sk.	[Behring Straits.]	Capt. Kellett & Lieut. Wood [P.].
c–f. ♂ ad.; *g*. ♀ ad. sk.	Vancouver Island, British Columbia.	Dr. Lyall [P.].
h, i. ♂ ♀ ad. sk.	St. Juan Island.	Dr. Lyall [P.].
k. ♂ ad. sk.	Orcas Island.	Dr. Lyall [P.].
l. ♂ ad. sk.	British Columbia.	Mrs. Denman [P.].
m. ♂ imm.; *n*. [♀] ad. sk.	British Columbia.	J. K. Lord, Esq. [P.].
o. ♂ ad. sk.	Esquimalt, British Columbia (*A. H. Markham*).	Salvin-Godman Coll.

* A specimen in the collection is labelled Behring Straits (*Capts. Kellett and Wood*); the precise locality whence this example came cannot be ascertained, so that the range cannot, with certainty, be extended so far north.

p. ♂ ad. sk.	Whidley Is., Washington Territory, Dec. (*Hensh. Coll.*).	Salvin-Godman Coll.
q. ♀ ad. sk.	Snake River, Sept. (*Hayden, Hensh. Coll.*).	Salvin-Godman Coll.
r. ♀ ad. sk.	Albany, Oregon, Jan. (*Hensh. Coll.*).	Salvin-Godman Coll.
s. ♂ ad. sk.	Columbia R., Oregon, Oct. (*Hensh. Coll.*).	Salvin-Godman Coll.
t, *u*. ♂ ad.; *v*. ♂ juv. sk.	California.	Tweeddale Coll.
w. ♂ imm. sk.	San Francisco.	Sir E. Belcher [P.].
x. ♀ ad. sk.	San Francisco (*Hensh. Coll.*).	Salvin-Godman Coll.
y. ♂ ad. sk.	Fort Crook, Cal. (*J. Feilner*).	Salvin-Godman Coll.
z, *a'*. ♂ ♀ ad.; *b'*, *c'*. ♀ imm. sk.	Oakland, Cal. (*Hensh. Coll.*).	Salvin-Godman Coll.
d'. ♂ ad. sk.	Jolan, Cal., Oct. (*Hensh. Coll.*).	Salvin-Godman Coll.
e'. ♂ imm. sk.	Los Alamos, Cal., Oct. (*Hensh. Coll.*).	Salvin-Godman Coll.
f'. ♂ ad. sk.	Stockton, Cal. (*Hensh. Coll.*).	Salvin-Godman Coll.
g'. ♀ ad. sk.	Nevada, Cal., Oct. (*Hensh. Coll.*).	Salvin-Godman Coll.
h', *i'*. ♂ ad.; *k'*, *l'*, *m'*. ♀ ad. sk.	Carson, Nevada, Nov., Dec. (*Hensh. Coll.*).	Salvin-Godman Coll.
n'. ♂ imm. sk.	Provo, Utah, Aug. (*Hensh. Coll.*).	Salvin-Godman Coll.
o'–*r'*. ♂ ad. et imm.; *s'*–*x'*. ♀ ad. et imm. sk.	Colorado Springs, Colorado, June, July (*Hensh. Coll.*).	Salvin-Godman Coll.
y', *z'*. ♀ ad. sk.	Papalote, Bee Co., Texas, Jan. (*F. B. Armstrong*).	Salvin-Godman Coll.
a''. ♀ ad. sk.	Hidalgo, Texas, April (*F. B. Armstrong*).	Salvin-Godman Coll.
b''. ♂ ad. sk.	Santa Fé, New Mexico, Sept. (*Hensh. Coll.*).	Salvin-Godman Coll.
c''. ♀ imm. sk.	San Francisco River, New Mexico, Oct. (*Hensh. Coll.*).	Salvin-Godman Coll.
d''. ♂ ad. sk.	Gila Co., Arizona, Oct. (*Hensh. Coll.*).	Salvin-Godman Coll.
e''. ♂ ad.; *f''*, *g''*, *h''*. ♀ ad. sk.	Mexico.	Tweeddale Coll.
i''–*o''*. ♂ ♀ ad. sk.	Mexico.	
p'', *q''*. ♂ ♀ ad. sk.	Hermosillo, Sonora, Dec.	Salvin-Godman Coll.
r'', *s''*. ♂ ♀ ad. sk.	Chupadero, Chihuahua, Jan., Feb. (*W. Lloyd*).	Salvin-Godman Coll.
t'', *u''*. ♂ ♀ ad. sk.	Chihuahua City, Feb. (*W. Lloyd*).	Salvin-Godman Coll.
v''. ♂ ad. sk.	San José, Chihuahua, Jan. (*W. Lloyd*).	Salvin-Godman Coll.
w''. ♂ ad. sk.	Concepcion, Chihuahua, March (*W. Lloyd*).	Salvin-Godman Coll.
x''. ♀ ad. sk.	Temosachic, March (*W. Lloyd*).	Salvin-Godman Coll.
y''. ♂ ad.; *z''*. ♀ imm. sk.	Ciudad Durango, June (*A. Forrer*).	Salvin-Godman Coll.
a^3. ♂ ad. sk.	Sierra de Jerez, Zacatecas, Sept. (*W. B. Richardson*).	Salvin-Godman Coll.

b^3–g^3. ♂ ad. et imm.; h^3, i^3, k^3. ♀ ad. et imm. sk.	Sierra San Luis Potosi (*W. B. Richardson*).	Salvin-Godman Coll.
l^3. ♂ imm. sk.	Sierra de Calvillo, Aguas Calientes, Aug. (*W. B. Richardson*).	Salvin-Godman Coll.
m^3. ♂ ad.; n^3. ♀ imm. sk.	Aguas Calientes, Aug. (*W. B. Richardson*).	Salvin-Godman Coll.
o^3, p^3. ♂ ad. et juv. sk.	Sierra Madre Navarit, Jalisco, July (*W. B. Richardson*).	Salvin-Godman Coll.
q^3. ♂ ad. sk.	Sierra Madre, Tepic, 6000 feet, June (*W. B. Richardson*).	Salvin-Godman Coll.
r^3, s^3. ♂ ♀ ad. sk.	Zapotlan, Jalisco, April (*W. Lloyd*).	Salvin-Godman Coll.
t^3. ♀ ad. sk.	Tetelco, Xochimilco, Jan.	Salvin-Godman Coll.
u^3. ♂ ad. sk.	Chimalpa, Tucubaya, Feb.	Salvin-Godman Coll.
v^3. ♂ ad. sk.	Huipulco, Tlalpam, April.	Salvin-Godman Coll.
w^3. ♀ ad. sk.	Near the City of Mexico.	Salvin-Godman Coll.
x^3. ♀ juv. sk.	San Miguel Molino, Huejotzingo, Puebla, July.	Salvin-Godman Coll.
y^3. ♀ imm. sk.	Las Vigas, Jalapa, July.	Salvin-Godman Coll.
z^3. ♀ ad. sk.	Jalapa (*de Oca*).	Salvin-Godman Coll.
a^4, b^4. ♂ ad.; c^4, d^4. ♂ imm. sk.	Cofre de Perote, July (*Matteo*).	Salvin-Godman Coll.
e^4, f^4. ♀ ad. sk.	Totontepec, Oaxaca, Feb. (*M. Trujillo*).	Salvin-Godman Coll.
g^4. ♂ ad. sk.	Tonaguia, Oaxaca, Feb. (*M. Trujillo*).	Salvin-Godman Coll.
h^4. ♀ ad. sk.	Villa Alta, Oaxaca, March (*M. Trujillo*).	Salvin-Godman Coll.
i^4. ♀ ad. sk.	Oaxaca (*Fenochio*).	Salvin-Godman Coll.
k^4. ♂ ad.; l^4. ♂ imm. sk.	Omilteme (8000 feet), State of Guerrero, July (*Mrs. H. H. Smith*).	Salvin-Godman Coll.
m^4. ♀ ad. sk.	Sierra Madre del Sur (*Mrs. H. H. Smith*).	Salvin-Godman Coll.

6. Colaptes submexicanus.

Picus rubricatus (♀), *Wagl. Isis*, 1829, p. 516.

Colaptes rubricatus, *Bp. P. Z. S.* 1837, p. 109; *Gray, Gen. B.* ii. p. 446, pl. cxi. ♂ ad. (1846).

Colaptes mexicanoides, *Lafr. Rev. de Zool.* 1844, p. 42; *Scl. & Salv. Ibis*, 1859, p. 137; *Scl. Cat. Amer. B.* p. 344, no. 2056 (1862); *Gray, List Picid. Brit. Mus.* p. 121 (1868); *id. Hand-l. B.* ii. p. 202, no. 8831 (1870); *Scl. & Salv. Nomencl. Av. Neotr.* p. 101 (1873); *Ridgw. Man. N. Amer. B.* p. 296 (1887).

Geopicos mexicanoides, *Malh. N. Classif. Mém. Acad. Metz*, 1848–49, p. 359.

Colaptes collaris, *Bp. Consp. Gen. Av.* i. p. 114 (1850); *id. Consp. Volucr. Zygod.* p. 11, no. 233 (1854).

Geopicus rubricatus, *Malh. Picidæ*, ii. p. 265, pl. cx. figs. 1, 2, ♂ ♀ ad. (1862).

Picus submexicanus, *Sundev. Consp. Av. Picin.* p. 72 (1866).

Adult male. Resembles *C. mexicanus* in the underside of the wings and of the tail being orange-red, but differs in having the

whole of the top of the head, occiput, and nape rich rufous; the back, scapulars, and wing-coverts more rufescent and with broader black bars; the rump transversely spotted with black; the central pair of tail-feathers with some transverse rufescent spots upon both webs; the shafts of the quills and of the rectrices both above and below are the same as in *C. mexicanus*. Total length 11·5 inches, culmen 1·77, wing 6·35, tail 4·65, tarsus 1·2; toes (without claws) —outer anterior 0·85, outer posterior 0·8, inner anterior 0·65, inner posterior 0·4.

Adult female. Differs from the adult male in having a cinnamon-rufous malar stripe. Total length 10·5 inches, culmen 1·25, wing 5·95, tail 4·15, tarsus 1·1.

Hab. Guatemala.

a. ♂ ad. st.	[Mexico.]	Purchased.
b. ♀ imm. sk.	[Mexico.]	Purchased.
c. ♀ ad. sk.	Barranco Hondo, Guatemala, Oct. (*O. S.*).	Salvin-Godman Coll.
d, *e*. ♂ ♀ ad. sk.	Coban, Vera Paz (*O. S.*).	Sclater Coll.
f. ♀ ad. sk.	Coban (*O. S.*).	Salvin-Godman Coll.
g. ♀ ad. sk.	Coban (*O. S.*).	Tweeddale Coll.
h. ♂ ad. sk.	Tac-tic, Vera Paz, Nov. (*O. S.*).	Salvin-Godman Coll.
i. ♂ ad. sk.	Volcan de Fuego, Guatemala, Sept. (*O. S.*).	Salvin-Godman Coll.
k, *l*. ♂ ad.; *m*. ♀ ad. sk.	Guatemala.	Tweeddale Coll.

7. Colaptes ayresi.

Colaptes ayresii, *Aud. B. Amer.* viii. p. 231, pl. ccccxciv. ♂ (1839); *Bp. Consp. Gen. Ar.* i. p. 113 (1850); *Heerm. Journ. Acad. Philad.* 1853, p. 270; *Bp. Consp. Volucr. Zygod.* p. 11, no. 230 (1854); *Reichenb. Scans. Picinæ*, p. 413, no. 971, pl. dclxvi. fig. 4421 (1854); *Gray, List Picid.* p. 120 (1868); *id. Hand-l. B.* ii. p. 202, no. 8829 (1870).

Picus ayresi, *DeKay, Nat. Hist. N. York*, pt. ii. p. 194 (1844).

Colaptes hybridus, *Baird, B. N. Amer.* p. 122 (1858); *B., B., & R. Hist. N. Amer. B.* ii. p. 582, pl. liv. fig. 3 (1874); *Ridgw. U. S. Geol. Expl. 40th Par.* pt. iii. *Orn.* p. 556 (1877); *Coues, Bull. U. S. Geol. Surv.* iv. no. 3, p. 618 (1878).

Geopicus ayresii, *Malh. Picidæ*, ii. p. 260 (1862).

Picus hybridus, aurato-mexicanus, *Sundev. Consp. Av. Picin.* p. 72 (1866).

Colaptes auratus, var. hybridus, *Ridgw. Proc. Essex Inst.* 1875, p. 38; *Beld. Proc. U. S. Nat. Mus.* 1878, p. 430.

Colaptes auratus hybridus, *Ridgw. Proc. U. S. Nat. Mus.* 1880, p. 190, no. 378 *a*.

The varied characters of this race are given by Baird, Brewer, and Ridgway as follows:—"Yellow shafts or feathers on wing and tail combined with red, or red-spotted cheek-patches. Orange-red shafts combined with a well-defined nuchal red crescent and pinkish throat. Ash-coloured throat combined with black cheek-patch or yellow shafts. Shafts and feathers intermediate between gamboge-yellow and dark orange-red." It will therefore be seen that *C. ayresi* is intermediate between *C. auratus* and *C. mexicanus*.

The most remarkable feature in connection with the Picidæ of North America is the interbreeding between *C. auratus* and *C. mexicanus*, resulting in a race frequently called *hybridus*, which occupies a district rarely invaded by pure-blooded birds of either of the parent species, and but rarely found out of that district. The very existence of this race, occupying as it does a distinct region, seems to point to the conclusion that the birds are fertile, otherwise it would cease to exist, and hybrids would only be found where the opposite species came in direct contact. A proof of the fertility of *C. ayresi* is given by Audubon, who states that in the nest-hole of the type-specimens there were six young birds. The breed may be one of long standing, but that it is replenished by pure blood from without seems highly probable, and may account for the violent contrast sometimes produced in the two sides of the same bird, which I think would not result in a race if left entirely to themselves, as the tendency would be towards the acquirement of a fixed character. The name of *hybridus* is untenable. A hybrid or simple cross between two species can have no specific name, and it is only upon the assumption that the birds resulting from this cross are fertile, and are producing a race having the characters of both parent forms (although irregular in their distribution and development), that they can have a name bestowed upon them, and, if such be the case, I see no other title for them than that of *C. ayresi* of Audubon. The name given by this author must therefore be understood to apply to the race produced originally by the union of *C. auratus* and *C. mexicanus*, and possessing such varied characters as to render description vague and indefinite, but evidently suggestive of very close interbreeding, and not as tending to show that all the individuals comprising the race are the immediate descendants of true *C. auratus* and *C. mexicanus*. There can be no doubt that *C. auratus* also interbreeds with *C. chrysoides*, but I do not see how any specific title can be applied to these hybrids, which occupy no distinct region.

Hab. Upper Missouri and Yellowstone Rivers, and the Black Hills; occasionally ranging into British Columbia and California.

a. ♂ ad. sk.	British Columbia.	J. K. Lord, Esq. [P.].
b. ♀ ad. sk.	California.	Tweeddale Coll.
c. ♂ ad. sk.	San Francisco (*Hensh. Coll.*).	Salvin-Godman Coll.
d. ♂ ad. sk.	Stockton, California (*Belding*).	Salvin-Godman Coll.
e. ♂ ad. sk.	Puebla, Colorado, Nov. (*Hensh. Coll.*).	Salvin-Godman Coll.

8. Colaptes campestris.

Carpintero campestre, *Azara, Apunt.* ii. p. 303 (1805).

Picus campestris, *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 101 (1818); *Licht. Verz. Doubl.* p. 10 (1823); *Spix, Av. Bras.* i. p. 57, pl. xlvi. ♀ (1824); *Wagl. Syst. Av.* Picus, sp. 83 (1827); *Less. Traité*, i. p. 225 (1831); *Sundev. Consp. Av. Picin.* p. 77 (1866).

Picus chrysosternus, *Swains. Mem. Wern. Soc.* iii. p. 288, ♀ (1821).

Chrysoptilus campestris, *Swains. Classif. B.* ii. p. 308 (1837); *Gould, in Darwin's Voy. Beag., Bds.* p. 113 (1841); *Hartl. Ind. Azara,*

p. 16 (1847); *Bp. Consp. Gen. Av.* i. p. 123 (1850); *Reichenb. Scans. Picinæ*, p. 418, no. 982, pl. dclxx. figs. 4437–38, ♀♀ (1854); *Gray, List Picid. Brit. Mus.* p. 94 (1868); *id. Hand-l. B.* ii. p. 195, no. 8742 (1870).

Soroplex campestris, *Glog. Handb.* p. 198 (1842).

Geopicos campestris, *Malh. N. Classif. Mém. Acad. Metz*, 1848–49, p. 358.

Colaptes campestris, *Licht. Nomencl. Av.* p. 77 (1854); *Burm. Th. Bras.* ii. p. 235 (1856); *Sclat. Cat. Amer. B.* p. 343, no. 2050 (1862); *Huds. P. Z. S.* 1870, pp. 112, 748; *Darwin, t. c.* p. 705; *Hamilt. Ibis*, 1871, p. 308; *Sclat. & Salv. Nomencl. Av. Neotr.* p. 101 (1873).

Malherbipicus campestris, *Bp. Consp. Volucr. Zygod.* p. 11, no. 226 (1854).

Geopicus campestris, *Malh. Picidæ*, ii. p. 251, pl. cviii. figs. 1, 2, ♂ ♀ ad. (1862).

Pediopipo campestris, *Pelz. Orn. Bras.* p. 249 (1870).

Adult male. Back, scapulars, and wing-coverts blackish brown narrowly barred with smoky white; quills blackish brown, the outer webs of the primaries having yellowish spots, the secondaries with white spots; inner webs of primaries margined and spotted, those of the secondaries spotted along their whole length with white, except the innermost of all, which are barred across both webs with brownish white; shafts golden yellow; rump and upper tail-coverts white, the former with a few narrow transverse markings of black, the latter entirely barred with black; tail black, the base of the inner webs of the central pair of feathers and the entire outer web of the outer large feather spotted with buff; shafts black; upper nasal plumes, forehead, crown and elongated occipital feathers, chin, throat, and malar region black, the feathers of the latter having mulberry-red tips, and bristly in character, the black on the side of the neck being on a line with the upper part of the malar stripe; lower nasal plumes and lores pale golden buff; face, side of the neck, nape, fore neck, and upper part of chest deep golden yellow; hind neck like the back, but the feathers having golden tips; entire under surface of the body yellowish white with narrow transverse markings of black; under tail-coverts barred black and white; under wing-coverts and axillaries golden pale buff, the coverts at the base of the primaries having dusky spots. Total length 12 inches, culmen 1·55, wing 6·7, tail 4·5, tarsus 1·27; toes (without claws)—outer anterior 0·97, outer posterior 0·85, inner anterior 0·68, inner posterior 0·5.

Adult female. Resembles the male, but has the feathers of the malar region tipped with white and not bristly in character. Total length 11 inches, culmen 1·45, wing 6·2, tail 4·15, tarsus 1·18.

A young bird (sex?) has the malar region uniform black.

Hab. Southern and Eastern Brazil north to Pernambuco; Bolivia, Paraguay, and through Uruguay to Buenos Ayres.

a, b. ♂ ♀ ad. sk.	Brazil.	Lord Stuart de Rothsay [P.].
c. ♀ ad. sk.	Brazil.	Sclater Coll.
d. ♂ imm. sk.	Pernambuco, Brazil.	Sclater Coll.

e. ♂ ad. sk.	Taipu, Brazil, Nov. (*J. Natterer*).	Salvin-Godman Coll.
f–i. ♂ ad.; *k–n.* ♀ ad. sk.	Chapada, Matto Grosso, March, July, Sept., Nov. (*H. Smith*).	Salvin-Godman Coll.
o. ♂ ad. sk.	Rio Claro, Prov. Goyaz, (*Joyner*).	Salvin-Godman Coll.
p. Juv. sk.	Bolivia.	Sclater Coll.
q. ♀ imm. sk.	Bolivia.	Tweeddale Coll.
r. ♂ imm. sk.	Interior of Bolivia.	Salvin-Godman Coll.
s. Skeleton.	Brazil.	

9. Colaptes agricola.

Geopicos agricola, *Malh. N. Classif. Mém. Acad. Metz*, 1848–49, p. 359.

Geopicos campestroides, *Rev. de Zool.* 1849, p. 541.

Chrysoptilus campestroides, *Bp. Consp. Gen. Av.* i. p. 123 (1850); *Burm. Th. Bras.* ii. p. 235 (1855); *Gray, List Picid. Brit. Mus.* p. 94 (1868); *id. Hand-l. B.* ii. p. 196, no. 8743 (1870).

Chrysoptilus subcampestris, *Reichenb. Scans. Picinæ*, p. 419, no. 983, pl. dclxx. figs. 4439–40, ♂ ♂ (1854).

Malherbipicus campestroides, *Bp. Consp. Volucr. Zygod.* p. 11, no. 227 (1854).

Colaptes australis, *Burm. J. f. O.* 1860, p. 244; *id. Reise La Plata-St.* ii. p. 445 (1861).

Geopicus agricola, *Malh. Picidæ*, ii. p. 254, pl. cviii. figs. 4, 5, ♂ ♀ ad. (1862).

Colaptes agricola, *Sclat. Cat. Amer. B.* p. 343, no. 2051 (1862); *Hudson, P. Z. S.* 1872, p. 549; *Sclat. & Salv. Nomencl. Av. Neotr.* p. 101 (1873); *Lee, Ibis*, 1873, p. 134; *Barrows, Auk*, 1884, p. 25; *Madar. Zeitsch. gesamm. Orn.* ii. p. 159 (1885); *Withing. Ibis*, 1888, p. 468; *Sclat. & Huds. Arg. Orn.* ii. p. 24 (1889).

Picus agricola, *Sundev. Consp. Av. Picin.* p. 77 (1866).

Colaptes campestris (*non Vieill.*), *White, P. Z. S.* 1882, p. 618.

Adult male. Differs from *C. campestris* in having the chin, throat, and anterior portion of the face white, the feathers on the posterior part of the malar region being mulberry-red spotted with white and having black bases. Total length 12·5 inches, culmen 1·43, wing 6·5, tail 4·35, tarsus 1·3; toes (without claws)—outer anterior 0·9, outer posterior 0·85, inner anterior 0·7, inner posterior 0·45.

Adult female. Differs from the adult male in the absence of red on the malar region, the posterior feathers being black with white tips. Total length 11·5 inches, culmen 1·52, wing 6·6, tail 4·4, tarsus 1·2.

Young female. Besides having the colour less pronounced than in the adult, there are one or two other points of difference, the feathers of the throat and immediately behind the malar region have the black at the base partially exposed; the central pair of tail-feathers margined on both webs with buffy white and having a partial intermarginal line or row of irregular spots of the same colour, the other tail-feathers externally edged, more or less, with greyish white; the tips of the quills white; under wing-coverts and axillaries creamy white.

Hab. Southern Brazil, from Taquara do Mundo Novo into Lower Uruguay and the Argentine Republic, and south to the Rio Negro in Patagonia.

a. ♀ ad. sk.	S. Brazil.	Sclater Coll.
b. ♀ ad. sk.	Uruguay, Dec. 8, 1875.	Alan Peel, Esq. [C.].
c. ♀ ad. sk.	Paysandu, Aug. 1877.	Alan Peel, Esq. [C.].
d. ♀ imm. sk.	Gualeguaychu, Arg. Rep.	Sclater Coll.
e. ♂ ad. sk.	La Plata, Arg. Rep.	Purchased.
f, g. ♂ ♀ ad. sk.	Cosquin, Cordova, Arg. Rep., June (*E. W. White*).	Salvin-Godman Coll.
h, i. ♂ ♀ ad. sk.	Rio Negro, Patagonia, March (*R. Hudson*).	Salvin-Godman Coll.
k. ♂ ad. sk.	Rio Negro, Patagonia, July (*Hudson*).	Sclater Coll.

10. Colaptes rupicola.

Colaptes rupicola, *D'Orb. Voy. Amér. Mérid.* iv. p. 377, pl. lxii. fig. 1, ♂ (1835–44); *Bridges, P. Z. S.* 1847, p. 29; *Bp. Consp. Gen. Av.* i. p. 114 (1850); *id. Consp. Voluer. Zygod.* p. 11, no. 235 (1854); *Gray, List Picid. Brit. Mus.* p. 122 (1868); *id. Hand-l. B.* ii. p. 202, no. 8832 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 101 (1873); *iid. P. Z. S.* 1879, p. 632.
Geopicus rupicola, *Malh. Picidæ*, ii. p. 271 (text partly), pl. cxiii. fig. 2, ♀ ad. (1862).
Picus rupicola, *Sundev. Consp. Av. Picin.* p. 78 (1866).
Colaptes longirostris, *Cab. J. f. O.* 1883, p. 97, ♂*.

Adult male. Back, scapulars, and wing-coverts brownish black barred with pale sandy brown; quills brownish black with more or less buff spots on the outer webs and whiter spots on the inner webs, the innermost feathers barred across both webs with sandy brown; shafts golden yellow; rump pale buff barred with black; tail black, the central pair of feathers on the basal half of both webs, the outer large feather along its whole length, and the remaining feathers at the extreme base of both webs, or of the inner one only, very narrowly barred with buff; shafts black with yellow bases, the outer large feather having the shaft yellow; upper nasal plumes, forehead, crown, occiput, and nape, also the malar region, dark slate-grey, the posterior feathers of the malar stripe tipped with crimson; hind neck like the back; lower nasal plumes, sides of the face and neck, chin and throat, fore neck and chest sandy buff, the two latter having transverse spots of black; the entire underparts below the chest, the under tail-coverts, under wing-coverts, and axillaries pale buff, and (with the exception of a few narrow black bars on the lower series of under tail-coverts) perfectly uniform: "eye, black centre, cadmium-yellow ring" (*D. Forbes*). Total length 12·5 inches, culmen 2·2, wing 6·65, tail 3·9, tarsus 1·16; toes (without claws)—outer anterior 0·9, outer posterior 0·8, inner anterior 0·68, inner posterior 0·38.

* I take this to be only *C. rupicola*. The measurement of the bill (which is the only stated point of difference) as given by Cabanis is exactly the same as that of the male described by me, which is true *C. rupicola* from Bolivia.

Adult female. Resembles the adult male, but has the malar stripe totally devoid of red. Total length 12·5 inches, culmen 2·05, wing 6·65, tail 4·2, tarsus 1·25.

Hab. Bolivia, and south into Tucuman.

a. ♀ ad. sk.	Bolivia.		T. Bridges [C.].
b. ♂ ad. sk.	Bolivia, Oct. 30, 1862.		Sclater Coll.
c. ♀ ad. sk.	Humaxuaca, Bolivia, March 1864 (*R. Pearce*).		Salvin-Godman Coll.

11. Colaptes puna.

Colaptes rupicola (*non D'Orb.*), *Tschudi, Av. Consp. Rep. Peruan.* p. 303; *Cab. in Tschudi's Faun. Peruan., Av.* p. 269 (1845–46); *Reichenb. Scans. Picinæ*, p. 416, no. 976, pl. dclxviii. figs. 4428–29, ♀ ♀ (1854); *Malh. Picid.* ii. p. 271 (pt.), pl. cxiii. fig. 1, ♂ ad. (1862); *Sclat. & Salv. P. Z. S.* 1868, p. 570; *iid. op. cit.* 1869, p. 154; *iid. Nomencl. Av. Neotr.* p. 101 (1873) (pt.); *Tacz. P. Z. S.* 1874, p. 546; *Sclat. & Salv. t. c.* p. 678; *Sclat. op. cit.* 1881, p. 488.

Colaptes puna, *Licht. Nomencl. Av.* p. 77 (1854); *Cab. J.f. O.* 1883, p. 98; *Tacz. Orn. Pérou*, iii. p. 94 (1886).

Picus rupicola (pt.), *Giebel, Thes. Orn.* iii. p. 178 (1876).

Adult male. Resembles the Bolivian *C. rupicola*, but may be distinguished by having the nape crimson. Total length 13 inches, culmen 2, wing 6·5, tail 4·4, tarsus 1·18: toes (without claws)—outer anterior 0·88, outer posterior 0·78, inner anterior 0·62, inner posterior 0·32.

Adult female. Differs from the adult male in having no red at the extremity of the malar stripe. Total length 13 inches, culmen 1·87, wing 6·45, tail 4, tarsus 1·2.

Hab. The high '*plateaux*' of Central and Southern Peru, at from 11,000 to 14,000 feet elevation. May possibly range into Bolivia.

a. ♀ ad. sk.	Tinta, Peru, June 23, 1868 (*H. Whitely*).	Sclater Coll.
b, c. ♀ ad. sk.	Tinta, Peru, May, June (*H. Whitely*).	Tweeddale Coll.
d. ♂ ad. sk.	Tinta, Peru, June (*H. Whitely*).	Salvin-Godman Coll.
e. ♂ ad. sk.	Andes of Lima (*Nation*).	Sclater Coll.
f. ♂ ad. st.	[Bolivia.]	T. Bridges [C.].

12. Colaptes cinereicapillus.

Colaptes cinereicapillus, *Reichenb. Scans. Picinæ*, p. 416, no. 978 *b*, pl. dclxxx. figs. 4489–90, ♀ ♀ (1854).

Colaptes rupicola (*non d'Orb.*), *Scl. & Salv. P. Z. S.* 1878, p. 140.

Colaptes stolzmanni, *Tacz. P. Z. S.* 1880, p. 209; *id. Orn. Pérou*, iii. p. 92 (1886); *Pelz. & Lorenz, Ann. k.-k. Naturh. Hofm.* iii. Th. iv. p. 42 (1888).

Adult female. Back and hind neck, scapulars and wing-coverts brownish black barred with buff or buffy white; rump and upper tail-coverts pale golden yellow tinged with buff, the lower series of the coverts transversely varied with black; bastard-wing and primary-coverts brownish black externally spotted with buff; quills

brownish black, the outer webs of the primaries on their basal portion and those of the secondaries along their whole length spotted with buff, the inner webs of the primaries more or less margined with pale buff which scallops the black, the inner webs of the secondaries with marginal spots of buff, the innermost of the latter feathers narrowly barred across with buff; shafts golden yellow; tail brownish black, the inner webs of the feathers, at the base, and the whole of the outer large feather with irregular and narrow buff bars; shafts black with golden bases, the shaft of the outer large feather yellow; upper nasal plumes, forehead, crown, occiput, and nape, also malar stripe, dusky slate-grey; lower nasal plumes and lores, sides of the face and neck, chin, throat, and fore neck rufescent buff, grading into a brighter and paler shade on the chest and breast, and more golden yellow on the remaining underparts and under tail-coverts, the lower part of the fore neck and the upper part of the chest narrowly barred with black; upon the sides of the body a few almost obsolete dusky bars; under wing-coverts and axillaries clear rufous buff: "eyes sulphur-yellow" (*Steere*). Total length 14·5 inches, culmen 2·1, wing 6·75, tail 5, tarsus 1·26; toes (without claws)—outer anterior 1, outer posterior 0·96, inner anterior 0·7, inner posterior 0·45.

Adult male. According to Taczanowski, the male differs from the female in having the malar stripe red posteriorly; the measurements given by the above author are as follows:—Total length 14 inches, wing 7, tail 5·3, bill 2·2, tarsus 1·25.

Hab. Northern Peru, at from 8,000 to 11,000 feet elevation.

a. ♀ ad. sk. Cutervo, Peru. Sclater Coll.

13. Colaptes pitius.

Picus pitius, *Molina, Hist. Nat. Chili*, p. 209 (1782); *Lath. Ind. Orn.* i. p. 234 (1790).
Picus pitiu, *Gm. Syst. Nat.* i. p. 432 (1788).
Picus chilensis, *Garn. & Less. Voy. Coq.* i. p. 241, pl. xxxii. ♀ imm. (1826); *Less. Traité*, i. p. 226 (1831); *Sundev. Consp. Av. Picin.* p. 78 (1866).
Colaptes chilensis, *Vig. Zool. Beechey's Voy.* p. 24 (1839); *Bridges, P. Z. S.* 1841, p. 94; *Gould, in Darwin's Voy. Beag., Bds.* p. 114 (1841); *Gray, List Picid. Brit. Mus.* p. 122 (1868); *id. Hand-l. B.* ii. p. 202, no. 8835 (1870).
Colaptes pitiguus, *Bridges, P. Z. S.* 1843, p. 114; *Gay, Faun. Chili*, i. *Zool.* p. 373 (1847); *Philippi, Cat. Av. Mus. Nat. Santiago*, p. 27 (1869).
Colaptes pitius, *Bp. Consp. Gen. Av.* i. p. 114 (1850); *Reichenb. Scans. Picinæ*, p. 414, no. 974, pl. dclxvii. figs. 4425–26, ♀ ♀ (1854); *Sclat. Cat. Amer. B.* p. 344, no. 2052 (1862); *id. & Salv. Ibis*, 1869, p. 283; *iid. op. cit.* 1870, p. 499; *iid. Nomencl. Av. Neotr.* p. 101 (1873).
Pituipicus chilensis, *Bp. Consp. Volucr. Zygod.* p. 11, no. 236 (1854).
Pituipicus pitiguus, *Gray, List Gen.* 1855, p. 94.
Geopicus chilensis, *Malh. Picidæ*, ii. p. 269, pl. cxi. figs. 4 & 5, ♂ & ♀ ad. (1862).

Adult male. Back, scapulars, and wing-coverts dusky brown

narrowly barred with smoky white; quills dusky brown, the outer webs spotted with more or less smoky white, the inner webs of the primaries margined on their basal portion, those of the secondaries spotted along their whole length with white, the innermost of the secondaries being barred across both webs with smoky white; shafts pale yellow, those of the primaries browner at the base; rump uniform white; upper tail-coverts barred black and white; tail nearly black, the central pair of feathers having almost the whole of the inner web and the base of the outer web transversely spotted with buff, and the outer large feather spotted and varied with buff on the margin of the outer web, and tipped with the same; shafts black; forehead, crown, occiput, and nape dusky slate-grey; hind neck like the back; nasal plumes, face, chin, and throat buffy white, the malar region very faintly striped with red; side of the neck and fore neck, entire underparts and under tail-coverts sandy white, the abdomen tinged with yellow, the side of the neck, fore neck, and chest barred with black, and the latter, as well as the sides of the breast, with a few black spots; flanks, thighs, and under tail-coverts barred with black; under wing-coverts and axillaries pale yellowish buff. Total length 12·5 inches, culmen 1·95, wing 6·35, tail 4·6, tarsus 1·17; toes (without claws)—outer anterior 1, outer posterior 0·85, inner anterior 0·75, inner posterior 0·38.

Adult female. Has no red on the malar region, this being spotted with dusky. Total length 12 inches, culmen 1·7, wing 6·25, tail 4·45, tarsus 1·2.

Young (sex?). Has the whole of the top of the head black, transversely spotted with dusky buff; the face, chin, and throat duller, the malar region unspotted, the ear-coverts and immediately behind the malar region striped with black; the light transverse markings on the upper parts more smoky.

Hab. Chili.

a, b. ♀ imm.; *c.* Juv. sk.	Chili.	Purchased.
d, e. Imm. sk.	Chili.	Sclater Coll.
f. ♀ ad. sk.	Santiago, Chili (*E. C. Reed*).	Salvin-Godman Coll.
g. ♂ ad. sk.	Santiago.	Tweeddale Coll.
h. Skeleton.	Chili.	

3. HYPOXANTHUS.

	Type.
Hypoxanthus, *Bp. Consp. Volucr. Zygod.* no. 228 (1854) ..	H. rivolii.

Range. From Venezuela through Colombia, Ecuador, Peru, into Bolivia.

*Key to the Species.**

A. Wing-coverts and outer webs of secondaries almost entirely red; with red upon the feathers

* The main characters given in the key hold good, but the "spotted" or it may be "uniform" chin and throat, although possessed by the species generally, is not constant. Examples of *H. rivolii* and *H. atriceps* have these parts occasionally almost, if not entirely, uniform, and, on the other hand, they are sometimes spotted in *H. brevirostris*. The barred (or otherwise) rump and upper tail-coverts is a character much more constant.

of the fore neck and chest; top of the head red in the male.

a'. Chin and throat spotted with yellowish white, the rump and upper tail-coverts with yellow crescentic markings and bars.

a''. Malar stripe red ..... *rivolii*, ♂ ad., p. 30.

b''. Malar stripe black..... *rivolii*, ♀ ad., p. 31.

b'. Chin and throat, rump, and upper tail-coverts uniform black. [p. 31.

c''. Malar stripe red..... *brevirostris*, ♂ ad.,

d''. Malar stripe black..... *brevirostris*, ♀ ad.,

B. Wing-coverts and outer webs of secondaries [p. 31. almost entirely golden olive, only slightly tipped or margined with red; with no red on the feathers of the fore neck and chest; chin and throat spotted; rump and upper tail-coverts uniform; top of the head black in both sexes. [p. 32.

c'. With red malar stripe ..... *atriceps*, ♂ ad.,

d'. With black malar stripe ..... *atriceps*, ♀ ad., [p. 32.

1. Hypoxanthus rivolii.

Picus rivolii, *Boiss. Rev. Zool.* 1840 (January), p. 36; *Wagn. Arch. für Naturg.* 1841, p. 100; *Sundev. Consp. Av. Picin.* p. 71 (1866).

Picus elegans (*non Swains.*), *Fraser, P. Z. S.* 1840 (July), p. 60.

Colaptes hypoxanthus, *Blyth, J. A. S. B.* 1845, p. 198, ♂.

Colaptes elegans, *Gray, Gen. B.* ii. p. 446 (1846); *Bp. Consp. Gen. Av.* i. p. 114 (1850); *Sclat. P. Z. S.* 1855, p. 162.

Geopicos rivolii, *Malh. N. Classif. Mém. Acad. Metz*, 1848–49, p. 359.

Colaptes rivolii, *Blyth, Cat. B. Mus. A. S. B.* p. 61 (1849); *Reichenb. Scans. Picinæ*, p. 415, no. 977, pl. dclxviii. figs. 4430–31, ♀ ♀ (1854); *Sel. Cat. Amer. B.* p. 345, no. 2057 (1862); *Gray, List Picid. Brit. Mus.* p. 122 (1868); *id. Hand-l. B.* ii. p. 203, no. 8836 (1870).

Hypoxanthus rivolii, *Bp. Consp. Volucr. Zygod.* p. 11, no. 228 (1854); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 101 (1873).

Geopicus rivolii, *Malh. Picidæ*, ii. p. 267 (pt. text), pl. cxii. figs. 1, 2, ♂ & ♀ ad. (1862).

Adult male. Back and scapulars crimson; rump and upper tail-coverts black with bars and crescentic markings of yellow tinged with red, the lower coverts uniform black; wing-coverts olive-brown margined with dull crimson; outer webs of primaries pale olive, those of the secondaries almost entirely crimson, the inner webs of the quills dusky brown, more or less margined with buffy white; shafts rather dull golden yellow; tail black, the outer large feather externally margined with brownish white; shafts grading from black in the central to brownish yellow in the outer feathers; nasal plumes black; top of the head, occiput, and malar stripe crimson, with partly exposed blackish bases to the feathers, the nape and hind neck, also the side of the neck, bright crimson; face pale yellow; chin and throat black, spotted with yellowish white; fore neck and chest black, washed with crimson, and covered with V-shaped and crescentic markings of yellow; from the breast

to the under tail-coverts, both inclusive, dull golden yellow, the upper breast, sides of the body, and flanks with crescentic black markings; under wing-coverts and axillaries dull golden yellow, the edge of the wing varied with black. Total length 11 inches, culmen 1·68, wing 5·5, tail 3·9, tarsus 1·05; toes (without claws)—outer anterior 0·7, outer posterior 0·7, inner anterior 0·62, inner posterior 0·38.

Adult female. Has the forehead, crown, and malar stripe black, but otherwise resembles the male. Total length 11 inches, culmen 1·5, wing 5·4, tail 4·05, tarsus 1·02.

Hab. U. S. Colombia (Bogota) and Venezuela.

a. Ad. sk.	Colombia.	Tweeddale Coll.
b, c. ♂ ♀ ad. sk.	New Granada.	Salvin-Godman Coll.
d. ♀ ad. st.	New Granada.	E. Wilson, Esq. [P.].
e. ♂ ad.; *f–i.* ♀ ad. sk.	Bogota.	Tweeddale Coll.
k. Imm. sk.	Bogota.	Sclater Coll.
l, m. ♂ ♀ ad. st.	Santa Fé, Bogota.	Purchased.
n. ♂ ad.; *o, p.* ♀ ad. sk.	Santa Fé, Bogota.	Purchased.

Subsp. **Hypoxanthus brevirostris.**

Colaptes elegans (*non Swains.*), *Sclat. P. Z. S.* 1858, p. 555; *id. op. cit.* 1860, pp. 81–95.

Geopicus rivolii, *Malh. Picid.* ii. p. 267 (pt. text) (1862).

Colaptes rivolii (pt.), *Sclat. Cat. Amer. B.* p. 345, no. 2057 (1862).

Hypoxanthus brevirostris, *Tacz. P. Z. S.* 1874, p. 446; *id. op. cit.* 1880, p. 209; *id. op. cit.* 1882, p. 43.

Hypoxanthus æquatorialis, *Dubois, Bull. Acad. R. Belge,* 1879, p. 823.

Hypoxanthus rivolii (*non Boiss.*), *Sclat. & Salv. P. Z. S.* 1879, p. 533.

Hypoxanthus rivolii brevirostris, *Berl. & Tacz. P. Z. S.* 1884, p. 307; *iid. op. cit.* 1885, p. 107; *Tacz. Orn. Pérou,* iii. p. 90 (1886).

Adult male. Resembles *H. rivolii*, but may be distinguished by its uniform black chin and throat, rump and upper tail-coverts. Total length 10 inches, culmen 1·3, wing 5·2, tail 3·85, tarsus 0·95; toes (without claws)—outer anterior 0·8, outer posterior 0·8, inner anterior 0·56, inner posterior 0·38.

Adult female. Differs from the adult male in having the forehead, crown, and malar stripe black. Total length 9·5 inches, culmen 1·18, wing 5, tail 3·55, tarsus 0·95.

The dimensions of examples from New Granada are considerably greater than those of the typical Peruvian birds, and approach more to those of *H. rivolii*.

Hab. Central and Northern Peru; Ecuador and Western Colombia to Antioquia.

a. ♂ ad. sk.	Retiro, Antioquia (*T. K. Salmon*).	Salvin-Godman Coll.
b. ♀ ad. sk.	Santa Elena, Antioquia (*T. K. Salmon*).	Salvin-Godman Coll.

c. ♂ ad. sk.	Antioquia (*T. K. Salmon*).	Sclater Coll.
d. ♂ ad. sk.	Ecuador.	Salvin-Godman Coll.
e. ♂ ad.; *f.* ♂ imm. sk.	Ecuador (*C. Buckley*).	Sclater Coll.
g, h. ♂ ♀ ad. sk.	Ecuador (*C. Buckley*).	Tweeddale Coll.
i. ♂ ad. sk.	Sical, Ecuador (*C. Buckley*).	Salvin-Godman Coll.
k. ♀ ad. sk.	San Lucas, Ecuador (*Villagomez*).	Salvin-Godman Coll.

2. **Hypoxanthus atriceps.**

Hypoxanthus rivolii (*non Boiss.*), *Sclat. P. Z. S.* 1873, p. 780.
Hypoxanthus atriceps, *Sclat. & Salv. P. Z. S.* 1876, p. 254; *iid. op. cit.* 1879, p. 632.

Adult male. Resembles both *H. rivolii* and *H. brevirostris*, but differs from these in having the forehead, crown, and occiput black; the face rather darker, and the ear-coverts much more olive; the wing-coverts and the outer webs of all the quills golden olive, the former (only) tipped with red, some of the secondaries being slightly tinged with red on the external margin only; with less red on the side of the neck, and none whatever on the feathers of the fore neck and chest, the feathers having yellow apical margins. *H. atriceps*, besides the above differences, may be distinguished from *H. rivolii* by its uniform rump and upper tail-coverts, and from *H. brevirostris* by its white spotted chin and throat. Total length 9 inches, culmen 1·03, wing 4·95, tail 3·7, tarsus 0·95; toes (without claws)—outer anterior 0·7, outer posterior 0·65, inner anterior 0·5, inner posterior 0·35.

Adult female. Resembles the adult male, but has the malar stripe black. Total length 9 inches, culmen 1·05, wing 4·78, tail 3·65, tarsus 0·95.

Immature (type of the species). Differs from the adult female in having the feathers of the fore neck and upper part of the chest margined at the tip with red; the face, including the ear-coverts, golden white; the occiput red like the nape; wing-coverts and secondaries dingy brown, the former entirely margined, the latter only externally margined with washed-out red; under wing-coverts and axillaries buffy white, slightly tipped with golden yellow. In this plumage the bird very closely resembles the immature of *H. brevirostris* from Ecuador.

Hab. Peru (Huasampilla) and Bolivia.

a. ♂ ad. sk.	Huasampilla, Peru (*H. Whitely*).	Salvin-Godman Coll. (Type of species.)
b. ♂ imm. sk.	Bolivia.	T. Bridges [C.].
c. Imm. sk.	Bolivia (*R. Pearce*).	Salvin-Godman Coll.
d. ♂ imm. sk.	Ramosani, Bolivia (*C. Buckley*).	Salvin-Godman Coll.
e, f. ♂ ♀ ad. sk.	Tilotilo, Prov. Yungas, Bolivia (*C. Buckley*).	Salvin-Godman Coll.
g, h. ♂ ♀ ad. sk.	Tilotilo, Prov. Yungas, Bolivia (*C. Buckley*).	Sclater Coll.

4. GECINUS.

Type.

Gecinus, *Boie, Isis*, 1831, p. 542 ..... G. viridis.
Brachylophus, *Swains. Classif. B.* ii. p. 308 (1837) .... G. viridis.
Venilia, *Bp. Consp. Gen. Av.* i. p. 128 (1850) ..... G. puniceus.

Tail of *Gecinus viridis* (reduced).

Range. Throughout almost the whole of the Palæarctic and the Indian Regions.

Key to the Species.

A. Rump green or yellow.
  a'. No yellow nuchal crest; never any red on the wings.
    a''. Under surface of the body not uniform, and more or less varied with V-shaped, squamate or crescentic markings of black, brown, or brownish olive.
      a'''. Underparts yellow, the abdomen, flanks, and thighs with more or less distinct V-shaped or crescentic dusky markings.
        a^4. Anterior half of face black.
          a^5. Malar stripe red, bordered with black..... *viridis* ♂ ad., p. 38.
          b^5. Malar stripe black ..... *viridis* ♀ ad., p. 39.
        b^4. Entire face grey.
          c^5. Malar stripe red, not bordered with black ..... *sharpii* ♂ ad., p. 40.
          d^5. Malar stripe black ..... *sharpii* ♀ ad., p. 40.
        c^4. Face grey, but crossed by a white stripe from the base of the upper mandible to the extremity of the malar region; malar stripe black in both sexes.

e^5. Crown, occiput, and nape red. *vaillanti* ♂ ad., p. 41.

f^5. Crown and occiput grey striped with black; nape (only) red ..... *vaillanti* ♀ ad., p. 41.

b'''. Underparts below the upper breast covered with V-shaped or crescentic markings of black; malar stripe red in both sexes.

d^4. Crown and occiput red, this colour spreading on to the black nape..... *awokera* ♂ ad., p. 42.

e^4. Crown grey, varied with black, the occiput (only) red ..... *awokera* ♀ ad., p. 42.

c'''. Underparts below the chest with squamate markings of black; throat and chest olivaceous or yellowish ashy; tail entirely barred; malar region black striped with white in both sexes.

f^4. Wing-coverts uniform; the squamate markings on the underparts broad, the feathers often having black shaft-stripes; tail narrowly barred with creamy white, the black interspaces showing clearly on the underside.

g^5. Crown, occiput, and nape red ..... *squamatus* ♂ ad., p. 43.

h^5. Crown, occiput, and nape black ..... *squamatus* ♀ ad., p. 44.

g^4. (*pale form*). Wing-coverts barred with darker green; the squamate markings on the underparts very narrow, and the feathers without black shaft-stripes; tail broadly barred with creamy white, the bars showing faintly on the underside, which is washed with golden yellow.

i^5. Crown, occiput, and nape red. *gorii* ♂ ad., p. 45.

j^5. Crown, occiput, and nape black ..... *gorii* ♀ ad., p. 45.

d'''. Underparts below the chest with elongated squamate markings of blackish brown, and having a striped appearance; the neck and chest uniform ochreous yellow or greenish; tail not barred, and with only a few bar-like spots on the inner webs of the central feathers.

h^4. Crown, occiput, and nape red. *vittatus* ♂ ad., p. 46.

i^4. Crown, occiput, and nape black. *vittatus* ♀ ad., p. 47.

e'''. The neck and chest not uniform, and varied with markings very similar to those of the underparts.
*j*¹. Tail-feathers with only a few bar-like spots at the base, the outer large one externally spotted, not barred; malar region deep black striped with white in both sexes; plumage not soft and silky.
*k*⁵. Crown, occiput, and nape red. *viridanus* ♂ ad., p. 48.
*l*⁵. Crown, occiput, and nape black ..... *viridanus* ♀ ad., p. 48.
*k*⁴. Tail-feathers more or less barred at the base, the outer large one entirely barred; malar region greyish white, striped with dusky olive or blackish in both sexes; plumage soft and silky.
*m*⁵. Crown, occiput, and nape red. *striolatus* ♂ ad., p. 50.
*n*⁵. Crown, occiput, and nape black ..... *striolatus* ♀ ad., p. 51.
b''. Entire under surface of the body uniform; malar stripe black in both sexes.
f'''. Nape grey.
*l*⁴. Crown red ..... *canus* ♂ ad., p. 54.
*m*⁴. Crown and occiput grey like the nape ..... *canus* ♀ ad., p. 54.
g'''. Nape black; occiput black or striped with grey.
*n*⁴. Tail entirely crossed by greyish bars; lower mandible yellow at the base.
*o*⁵. Crown red ..... *guerini* ♂ ad., p. 55.
*p*⁵. Crown and occiput striped black and grey, or almost entirely black..... *guerini* ♀ ad., p. 55.
*o*⁴. Tail black, the central pair of feathers with greyish spots upon both webs; bill black, with no yellow on the lower mandible.
*q*⁵. Crown red ..... *occipitalis* ♂ ad., p. 56.
*r*⁵. Crown black, like the occiput and nape..... *occipitalis* ♀ ad., p. 57.
b'. With yellow nuchal crest and with more or less red on the wings.
c''. Wing-coverts green, and the outer webs of the quills more or less so.
k'''. Larger, length 10 inches, wing 5·25; underparts below the breast fulvescent white barred with olive-dusky.
*p*⁴. Base of the forehead, outer

edge of the crown and occiput, also the malar stripe, crimson. *chlorolophus* ♂ ad., p. 60.

q^1. Occiput (only) externally bordered with red; no red malar stripe ..... *chlorolophus* ♀ ad., p. 60.

i'''. Smaller, length 9·5 inches, wing 4·65; underparts deep olive, the sides of the body and below the breast more or less spotted transversely with yellowish white.

r^1. Crown, occiput, and malar stripe crimson ..... *chlorogaster* ♂ ad., p. 63.

s^1. Occiput (only) crimson; no red malar stripe ..... *chlorogaster* ♀ ad., p. 63.

d''. Wing-coverts and outer webs of quills (except the apical portion of the primaries) crimson.

j'''. Malar stripe crimson ... . *puniceus* ♂ ad., p. 65.

k'''. Without any malar stripe .... *puniceus* ♀ ad., p. 65.

B. Rump red; head black; neck and chest yellow.

c'. Bill ivory-white.

e''. Crown with a small quadrate spot of red ..... *erythropygius* ♂ ad., p. 66.

f''. With no red on crown ..... *erythropygius* ♀ ad., p. 67.

d'. Bill black.

g''. Crown with large quadrate patch of red, or almost entirely red.... *nigrigenis* ♂ ad., p. 67.

h''. With no red on crown ..... *nigrigenis* ♀ ad., p. 68.

1. Gecinus viridis.

Le Pic Verd, *Briss. Orn.* iv. p. 9 (1760); *Buff. Hist. Nat. Ois.* vii. p. 355 (1783); *Daub. Pl. Enl.* 879 (♂).

Le Pic Verd du Mexique, *Briss. Orn.* iv. p. 16 (1760)*.

Le Pic jaune de Perse, *Briss. Orn.* iv. p. 20 (1760)†; *Salerne, Hist. Nat. Ois.* p. 108 (1767).

The Green Woodpecker, *Penn. Brit. Zool., Bds.* p. 78, pl. E, ♂ (1766); *Wallis, Nat. Hist. Northumb.* i. p. 319 (1769); *Lath. Gen. Syn.* ii. p. 577 (1782); *Penn. Arct. Zool.* ii. p. 277 (1785); *Lath. Gen. Syn.* Suppl. i. p. 110 (1787); *Lewin, B. Gt. Brit.* ii. p. 34, pl. xlvi. ♂ (1796); *Mont. Orn. Dict.* ii. (1802); *Bewick, Hist. Bds.* i. p. 136 (1826); *Hewits. Mag. Zool. & Bot.* ii. p. 313 (1838); *Thomps. Nat. Hist. Irel.* ii. App. p. 441 (1851).

Picus viridis, *Linn. Syst. Nat.* i. p. 175 (1766); *Tunst. Orn. Brit.*

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* Founded on the bird described and figured as *Ardea mexicana* by Seba (Cab. Cur. Nat. i. pt. 2, p. 100, pl. lxiv. fig. 3, 1734), but which is only *G. viridis* furnished with the legs of another bird, not a Woodpecker. This error was observed by Brisson, who placed the bird amongst the *Picidæ*, but failed to recognize the species to which it belonged.

† Founded on the *Picus luteus cyanopus persicus* of Aldrovandi (Orn. p. 850), and nothing more than a variety of *G. viridis*, peculiar to the East.

p. 2 (1771); *Gm. Syst. Nat.* i. p. 433 (1788); *Lath. Ind. Orn.* i. p. 234 (1790); *Meyer & Wolf, Hist. Nat. Ois. de l'Allem.* p. 15, pl. x. ♀ ad., pl. xi. juv. (1805); *Pall. Zoogr. Rosso-Asiat.* i. p. 408 (1811); *Leach, Syst. Cat. Brit. Mus.* p. 12 (1816); *Nils. Orn. Suec.* i. p. 103 (1817); *Vieill. N. Dict.* xxvi. p. 95 (1818); *Temm. Man. d'Orn.* i. p. 391 (1820); *Brehm, Naturg. Eur., Vög.* i. p. 134 (1823); *Roux, Orn. Prov.* i. p. 92, pls. 57, 58 (1825); *Valenc. Dict. Sc. Nat.* xl. p. 169 (1826); *Risso, Eur. Mérid.* iii. p. 60 (1826); *Naum. Vög. Deutschl.* v. p. 270, pl. cxxxii. (1826); *Wagl. Syst. Av.* Picus, sp. 32 (1827); *Savi, Orn. Tosc.* i. p. 140 (1827); *Werner, Atl.* pl. 201 (1827); *Flem. Hist. Brit. Anim.* p. 91 (1828); *Less. Traité*, i. p. 218 (1831); *Ménétr. Cat. Rais. Cauc.* p. 46, no. 133 (1832); *Selby, Brit. B.* i. pt. 2, p. 372, pl. xxxviii. ♂ (1833); *Jenyns, Man. Brit. Vertebr.* p. 148 (1835); *Gould, B. Eur.* iii. pl. 226, ♂ ad. & juv. (1837); *Schinz, Wirb. Schweiz*, p. 91 (1837); *Jard. & Selb. Ill. Orn.* i. p. 372 (1839); *Macgill. Hist. Brit. B.* iii. p. 91 (1840); *Keys. & Blas. Wirb. Eur.* p. 147 (1840); *Yarr. Hist. Brit. B.* ii. p. 132 (1843); *Schleg. Rev. Crit. Ois. d'Eur.* p. xlix (1844); *Drumm. Ann. Nat. Hist.* 1846, p. 13; *Baikie & Hedd. Hist. Nat. Orcad.* pt. i. p. 49 (1848); *Schleg. Vog. Nederl.* p. 79, pl. 48 ♂ ♀ (1854–58); *Hewits. Eggs Brit. B.* i. p. 239, pl. lxi. fig. 2 (1856); *Linderm. Vög. Griechenl.* p. 41 (1860); *Sundev. Consp. Av. Picin.* p. 60 (1866); *Sabanaeff, Bull. Mosc.* xlii. pt. ii. pp. 185–197 (1869); *Elw. & Buckl. Ibis*, 1870, p. 188; *R. Gray, B. W. Scotl.* p. 189 (1871); *Harting, Handb. Brit. B.* p. 32 (1872); *Cord. Ibis*, 1875, p. 184; *Mommsen, Griech. Jahresz.* pt. iii. p. 186 (1875); *Schleg. Vog. Nederl.* p. 38, pl. v. figs. 3–5 (1878); *Elwes, Ibis*, 1880, p. 396; *Seeb. op. cit.* 1882, p. 209.

Picus semirostris*, *Linn. Syst. Nat.* i. p. 175 (1766); *Müll. Linn. Naturg.* pt. ii. p. 225 (1773); *Gm. Syst. Nat.* i. p. 435 (1788); *Lath. Ind. Orn.* i. p. 238 (1790).

The Yellow Blue-footed Persian Woodpecker, *Lath. Syn.* ii. p. 584 (1782).

Half-billed Woodpecker, *Lath. Gen. Syn. B.* ii. p. 586 (1782).

Picus persicus, *Gm. Syst. Nat.* i. p. 435, no. 34 (1788); *Lath. Ind. Orn.* i. p. 236 (1790).

Colaptes pinetorum,
Colaptes frondium,
Colaptes virescens,
Colaptes viridis,
} *Brehm, Isis*, 1828, p. 1274.

Gecinus viridis, *Boie, Isis*, 1831, p. 542; *Brehm, Vög. Deutschl.* p. 198 (1831); *Ross, P. Z. S.* 1842, p. 1; *Gray, Gen. B.* ii. p. 438 (1846); *Bp. Consp. Gen. Av.* i. p. 126 (1850); *id. Consp. Volucr. Zygod.* p. 10 (1854); *Reichenb. Scans. Picinæ*, p. 347, no. 793, pl. dcxx. figs. 4131–33 (1854); *Powys, Ibis*, 1860, p. 235; *Salvad. Ucc. Sard.* p. 32 (1864); *Gigl. Ibis*, 1865, p. 58; *More, tom. cit.* p. 135; *Degl. & Gerbe, Orn. Eur.* i. p. 156 (1867); *Gray, List Picid. Brit. Mus.* p. 72 (1868); *Doderl. Avif. Sic.* p. 50 (1869); *Gray, Hand-l. B.* ii. p. 191, no. 8671 (1870); *Salvad. Faun. d'Ital., Ucc.* i. p. 34 (1871); *Dress. B. Eur.* v. p. 77, pl. cclxxxv. (1871); *Dubois, Consp. Av. Eur.* p. 19 (1871); *Boyd. B. Volga*, p. 60, no. 41 (1871); *Garrod, Ibis*, 1872, p. 359; *Gould, B. Gt. Brit.* iii. pl. lxxiv. ♂ ♀, pl. lxxv. juv. (1873); *Brooke, Ibis*, 1873, p. 235;

* A mutilated specimen.

Danf. & Harv.-Br. op. cit. 1875, p. 298; *Blanf. Zool. E. Pers.* ii. p. 135 (1876); *Danf. Ibis*, 1877, p. 264; *id. op. cit.* 1878, p. 6; *Bogd. B. Cauc.* (*Russ.*), p. 119, no. 184 (1879); *Goebel, Vög. Uman. Kr.* p. 154 (1879); *Russow, Orn. Esth-, Liv- u. Kurl.* p. 117 (1880); *Brandt, J. f. O.* 1880, p. 229; *Wharton, Ibis*, 1881, p. 257; *Gigl. t. c.* p. 191; *Buchn. & Pleske, Orn. St. Pétersb. Gouvern.* p. 76 (1881); *Collett, Norges Fuglef.* p. 314 (1881); *Newt. ed. Yarr. Brit. B.* ii. p. 457 (1881); *Seeb. Ibis*, 1883, p. 22; *Irby, t. c.* p. 179; *Radde, Orn. Cauc.* p. 304 (1884); *Clarke, Ibis*, 1884, p. 144; *Saund. t. c.* p. 379; *Seeb. Hist. Brit. B.* ii. p. 364, pl. xviii. (1884); *Gigl. Avif. Ital.* p. 205 (1886); *Salvad. Ucc. Ital.* p. 67 (1887); *Backhouse, Ibis*, 1887, p. 72; *Harg. op. cit.* 1888, p. 30.

Gecinus pinetorum,
Gecinus frondium, } *Brehm, Vög. Deutschl.* pp. 197, 199 (1831).
Gecinus virescens,

Malacolophus viridis, *Swains. Classif. B.* ii. p. 308 (1837).

Brachylophus viridis, *Jard. Nat. Libr.* x. p. 355 (1839).

Picus karelini*, *Brandt, Bull. Sc. Acad. Imp. St. Pétersb.* ix. p. 12 (1842).

Gecinus karelini, *Gray, Gen. B.* ii. p. 438 (1846); *Bp. Consp. Gen. Av.* i. p. 126 (1850); *id. Consp. Volucr. Zygod.* p. 10 (1854); *Reichenb. Seans. Picinæ*, p. 349, no. 795 (1854); *Gray, List Picid. Brit. Mus.* p. 74 (1868); *id. Hand-l. B.* ii. p. 191, no. 8678 (1870).

Chloropicos viridis, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 351.

Chloropicus viridis, *Malh. Picidæ*, ii. p. 118, pl. lxxix. figs. 1–4 (1862).

Chloropicus karelini, *Malh. Picid.* ii. p. 126 (1862).

Gecinus saundersi†, *Tacz. J. f. O.* 1878, p. 349.

Adult male. Back, scapulars, and wing-coverts uniform yellowish olive; feathers of the rump and the upper tail-coverts green, with the apical portion chrome-yellow; quills dusky, the outer webs of the secondaries and of the inner primaries on their basal margin washed with green, the outer webs of the primaries spotted with dull white, those of the secondaries having almost obsolete greyish spots or transverse markings; inner webs of quills spotted with pure white; shafts dusky brown; tail dusky black, barred with smoky grey, the central feathers margined at the base with green; shafts dusky black; top of the head, occiput, nape, and malar stripe crimson; nasal plumes, anterior half of face, and outer edge of malar stripe black; hind neck and side of the neck green; posterior half of face, and from the chin to the under tail-coverts, both inclusive, greenish or yellowish white, whiter on the chin and throat, the vent with crescentic dusky-olive markings, the thighs and under tail-coverts barred with dusky olive; under wing-coverts and axillaries yellowish white, the former narrowly barred with olive-dusky, the latter having one or two transverse spots and a sub-

* Mr. Seebohm, at my request, examined the type in the Museum of St. Petersburg, and he considers it referable to the present species.

† From the Caucasus, and inseparable from our own Green Woodpecker.

apical bar of olive-dusky: "bill greyish black, the lower mandible with a yellowish longitudinal band near the base; irides white; feet dull bluish grey, the claws light greyish brown, with a tinge of blue" (*Macgillivray*). Total length 12·5 inches, culmen 1·9, wing 6·5, tail 4, tarsus 1·2; toes (without claws)—outer anterior 0·85, outer posterior 0·8, inner anterior 0·68, inner posterior 0·4.

Adult female. Has the malar stripe black, but otherwise is similar to the adult male. Total length 12·5 inches, culmen 1·7, wing 6·25, tail 3·9, tarsus 1·15.

Nestlings. Have the back and wing-coverts less vivid green, with dull white or yellowish spots, the rump having partially concealed bars of dusky black, and the upper tail-coverts barred with dusky; the face and sides of the neck, together with the entire underparts and under tail-coverts, yellowish white, the face and entire neck striped with black, the breast having somewhat V-shaped markings, and the remainder with transverse markings or bars of black; the feathers of the forehead, crown, and occiput tipped with scarlet; supercilium dusky black, spotted with olivaceous white. The male has the malar stripe black, spotted anteriorly with olivaceous white, the posterior feathers tipped with red; the female has no red on the malar stripe, this being entirely dusky black spotted with dull greenish white.

Hab. Found throughout the greater part of Europe, its northern range in Norway and Sweden being about 60° lat. Also inhabits Asia Minor and Persia.

a, b. ♂ ♀ ad.; *c–g.* Juv. st.	Norfolk.	Lord Walsingham [P.].
h. ♀ ad. st.	Norfolk.	Lord Walsingham [P.].
i. ♀ ad. sk.	Hethersett, Norfolk.	Tweeddale Coll.
k. ♂ ad. st.	Drinkstone Park, Suffolk.	T. Harcourt Powell, Esq. [P.].
l, m. ♂ ad. et ♂ juv. st.	Cambridgeshire.	Mr. J. Baker [C.].
n. ♂ ad. sk.	Cambridgeshire.	Tweeddale Coll.
o. ♀ ad. sk.	Near Oxford (*Murray A. Mathew*).	Gould Coll.
p, q. ♂ ad. sk.; *r.* Pull. sk.	Hendon, Middlesex (*O. Salvin*).	Salvin-Godman Coll.
s, t. ♂ ♀ ad. sk.	Tanhurst, Surrey, Feb. 1857 (*F. DuCane Godman*).	Salvin-Godman Coll.
u. ♀ ad. st.	Cookham, Berks.	Mr. W. Briggs [C.].
v. ♀ ad. sk.	Cookham, Berks, Nov. 30, 1874.	R. B. Sharpe, Esq. [P.].
w. ♂ ad. sk.	Cookham, Berks, Dec. 1867 (*R. B. S.*).	Tweeddale Coll.
x. ♀ ad. sk.	Devonshire.	Montagu Coll.
y. Pull. sk.	Norway (*Baker*).	Salvin-Godman Coll.
z. ♀ ad. sk.	Stockholm, Oct. 16, 1870.	W. Meves [C.].
a'. ♂ ad. sk.	Wermland, June 6, 1872.	W. Meves [C.].
b'. ♀ ad. st.	Paris.	R. B. Sharpe, Esq. [P.].

c'. ♂ ad. st.	Ain, France.	R. B. Sharpe, Esq. [P.].
d'. ♀ ad. sk.	Mentone.	Gould Coll.
e'. ♀ ad. sk.	Asia Minor (*T. Robson*).	Gould Coll.
f', *g'* ♂ ad.; *h'*, *i'*, *k'*. ♀ ad. sk.	Asia Minor, Dec., Jan., Feb., March (*T. Robson*).	Tweeddale Coll.
l', *m'* ♂ ♀ ad. sk.	Taurus, Asia Minor, March, Dec. (*C. G. Danford*).	Salvin-Godman Coll.
n'. ♂ ad. sk.	Gumushkhana, Asia Minor, June 27, 1848 (*Dickson & Ross*).	Gould Coll.
o'. Ad. sk.	Persia.	Purchased.
p'–*s'*. Skulls.		
t'–*z'*. Sterna.		

2. Gecinus sharpii.

Gecinus viridis (*non Linn.*), *Lilford, Ibis*, 1866, p. 176; *Saund. op. cit.* 1869, p. 182, 1871, p. 65.

Picus viridis (*non Linn.*), *A. C. Smith, Ibis*, 1868, p. 448.

Gecinus sharpii, *Saund. P. Z. S.* 1872, p. 153; *Dresser, B. Eur.* v. p. 89, pl. 286 (1872); *Irby, B. Gibr.* p. 71 (1875); *Saund. Bull. Soc. Zool. France*, 1877, p. 325; *Lacroix, Bull. Soc. Hist. Nat. Toulouse*, 1877, p. 133 *; *id. Bull. Soc. Zool. France*, 1877, p. 486; *Chapm. Ibis*, 1884, p. 79; *Tait, op. cit.* 1887, p. 304; *Harg. op. cit.* 1888, p. 27.

Adult male. Resembles *G. viridis*, but differs in having the face grey, there being only a spot of black upon the loral region; the malar stripe more scarlet than crimson, and not bordered with black. Total length 12·5 inches, culmen 1·7, wing 6·05, tail 3·7, tarsus 1·2; toes (without claws)—outer anterior 0·77, outer posterior 0·65, inner anterior 0·6, inner posterior 0·3.

Adult female. Differs from the adult male in having the malar stripe black. Total length 11·5 inches, culmen 1·75, wing 6·15, tail 3·6, tarsus 1·23.

Nestling, male. May be distinguished from that of *G. viridis* in having the face slaty grey, slightly greenish anteriorly, striped and spotted with dull white; the supercilium unspotted; sides of the fore neck and chest greyer; the spots on the underparts less transverse, being diamond-shaped, heart-shaped, and V-shaped, except on the flanks and thighs, which are barred; the upper tail-coverts not barred.

Hab. Spain south of the Guadarrama Mountains, and throughout Portugal.

a, *b*. ♂ ♀ ad.; *c*. ♂ juv. sk.	Cota de Doña Ana, Spain, May 1872.	Lord Lilford [P.].
d. ♂ juv. sk.	Sta. de Isnalloz, Spain, Feb. 2, 1872 (*Howard Saunders*).	Tweeddale Coll.
e, *f*. ♀ ad. sk.	Coto del Rey, Spain, Jan. 1872.	Col. Irby [P.].

* Said by M. Lacroix to have been obtained at Martory, Haute Garonne; but, as I have pointed out (Ibis, 1888, p. 30), I think there has been a mistake in the identification.

g. ♀ juv. sk.	Granada, Spain, Sept. 1874 (*Howard Saunders*).	Tweeddale Coll.
h. ♂ ad. sk.	Coimbra, Portugal.	Dr. Lopez Viera [P.].

3. Gecinus vaillanti.

Picus (Chloropicus) viridis (*non Linn.*), *Malh. Cat. Rais. Ois. d'Algér., Mém. Soc. d'Hist. Metz*, 1846, p. 17.

Picus (Chloropicus) canus (*non Gm.*), *Malh. Cat. Rais. Ois. d'Algér., Mém. Soc. d'Hist. Nat. Metz*, 1846, p. 17.

Chloropicus vaillantii, *Malh. Mém. Acad. Metz*, 1846–47, p. 130; *id. N. Classif., op. cit.* 1848–49, p. 351; *id. Picidæ*, ii. p. 122, pl. lxxxii. figs. 1–3 (1862).

Picus algirus, *Levaill. Jr. Expl. Sc. d'Algér., Ois.* pl. v. (1848–49); *Sundev. Consp. Av. Picin.* p. 60 (1866).

Gecinus algirus, *Gray, Gen. B.* iii. App. p. 21 (1849); *Reichenb. Scans. Picinæ*, p. 348, no. 793, pl. dcxx. fig. 4134 (1854).

Gecinus vaillantii, *Bp. Consp. Gen. Av.* i. p. 126 (1850); *id. Consp. Volucr. Zygod.* p. 10 (1854); *Loche, Cat. Mamm. et Ois. d'Alg.* sp. 191, p. 92 (1858); *Tristr. Ibis*, 1859, p. 159; *Salv. tom. cit.* p. 315; *Tristr. op. cit.* 1860, p. 373; *Drake, op. cit.* 1867, p. 425; *Loche, Expl. Sc. d'Algér.* ii. p. 83 (1867); *Gray, List Picid. Brit. Mus.* p. 73 (1868); *id. Hand-l. B.* ii. p. 191, no. 8673 (1870); *Tacz. J. f. O.* 1870, p. 40; *Gurney, Jun., Zool.* 1871, p. 2579; *Dresser, B. Eur.* v. p. 93, pl. cclxxxvii. (1873); *Irby, Orn. Str. Gibr.* p. 72 (1875); *Harg. Ibis*, 1888, p. 24.

Picus viridis (*non Linn.*), *Carstensen, Naumannia*, ii. pt. 1, p. 77 (1852).

Adult male. Resembles both *G. viridis* and *G. sharpii*. It differs from *G. viridis* in having the face grey, and in the malar stripe being entirely black. It also differs from *G. sharpii* in having the malar stripe black, and in addition has a white spot at the base of the upper mandible, and an indication of a whitish stripe above the malar region. "Irides white" (*Irby*). Total length 11·3 inches, culmen 1·5, wing 6·05, tail 3·8, tarsus 1·12; toes (without claws)—outer anterior 0·95, outer posterior 0·86, inner anterior 0·68, inner posterior 0·38.

Adult female. Differs from the adult male in having the occiput alone scarlet, the forehead and crown being greenish slaty grey, the feathers having a black central stripe. Total length 11·3 inches, culmen 1·45, wing 6, tail 4·05, tarsus 1.

Hab. Morocco and Algeria, as far as the Tunisian frontier.

a. ♂ ad. st.	Algeria.	Purchased.
b. ♀ ad. sk.	Tetuan, Morocco, March 29, 1874.	Col. Irby [P.].

4. Gecinus awokera.

Picus awokera, *Temm. Pl. Col.* iv. no. 25, pl. 585 (1826); *id. & Schleg. Faun. Japon.* p. 72, pl. xxxvi. (1847–49); *Sundev. Consp. Av. Picin.* p. 60 (1866).

Gecinus awokera, *Gray, Gen. B.* ii. p. 438 (1846); *Bp. Consp. Gen. Av.* i. p. 127 (1850); *id. Consp. Volucr. Zygod.* p. 10 (1854);

Reichenb. Scans. Picinæ, p. 349, no. 797, pl. dexx. figs. 4137–38 (1854); *Swinh. P. Z. S.* 1863, p. 333; *Gray, List Picid. Brit. Mus.* p. 72 (1868); *id. Hand-l. B.* ii. p. 191, no. 8672 (1870); *Blakist. & Pryer, Trans. As. Soc. Jap.* x. p. 136 (1882); *Jouy, Proc. U. S. Nat. Mus.* vi. p. 308 (1883); *Harg. Ibis*, 1888, p. 40.

Chloropicos awokera, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 351.

Chloropicus awokera, *Malh. Picidæ*, ii. p. 128, pl. lxxx. figs. 1, 2 (1862).

Adult male. Back and scapulars olive, the rump and upper tail-coverts also olive, but the feathers having chrome-yellow tips; wing-coverts and outer webs of the secondaries of a more golden olive than the back; the remaining portion of the quills dusky black, the outer webs of the primaries spotted with white, the inner feathers having the web partially or entirely margined with olive; inner webs, except the apical portion of the primaries, spotted with pure white; shafts dusky brown; tail brownish dusky, with faint greyish bars on both webs, the central feathers margined at the base with golden olive; shafts dusky brown with blackish tips; nasal plumes, base of forehead, lores, and below the eye dusky black; crown, occiput, and nape crimson, the bases of the feathers slaty grey spotted with black, partly exposed; malar stripe mostly crimson, but black anteriorly and posteriorly; hind neck dusky black; chin and throat white; face and side of the neck and fore neck slaty grey, shading into yellowish grey on the chest and upper breast; the remaining underparts and the under tail-coverts white tinged with yellow, and covered with V-shaped and crescentic markings of black, the lower series of under tail-coverts barred with black; under wing-coverts and axillaries yellowish white, with transverse and varied spots of black: "iris venetian red; bill dark greenish, base lemon-yellow; tarsi and toes dull olive-green" (*Jouy*). Total length 11·3 inches, culmen 1·6, wing 5·6, tail 3·95, tarsus 1·15; toes (without claws)—outer anterior 0·75, outer posterior 0·68, inner anterior 0·6, inner posterior 0·35.

Adult female. Differs from the male in having the forehead and crown smoky grey, the latter greenish posteriorly, the feathers being tipped and streaked with dusky, the occiput and nape red; the malar stripe red as in the male. Total length 11 inches, culmen 1·45, wing 5·55, tail 3·9, tarsus 1·05.

Young (sex?). Has the back and scapulars dusky with the faintest green tinge; forehead and crown dusky, the occipital feathers tipped with dull orange-scarlet; nape and hind neck dusky blackish; face and side of the neck smoky grey; some of the black malar feathers tipped with red; chin, throat, fore neck, and chest dingy buffy white; the black markings below covering the entire breast; the wings and their coverts very much duller. In other respects it resembles the older birds.

Hab. Main island of Japan, also the island of Kiushiu.

a, b. ♂ ♀ ad. sk.	Japan.	Gould Coll.
c. ♀ ad. sk.	Japan.	C. Maries.

d. ♀ ad. sk.	Japan.	Leiden Museum.
e, f. ♂ ♀ ad. sk.	Yokohama, Japan.	H. Pryer.
g. ♂ imm. sk.	Nagasaki, Japan.	F. Ringer, Esq. [P.].
h. ♀ ad. sk.	Nagasaki, Japan.	Tweeddale Coll.

5. Gecinus squamatus.

Picus squamatus, *Vig. P. Z. S.* 1830, p. 8; *Gould, Cent. B. Himal. M.* pl. xlviii. (1832); *Jard. & Selby, Ill. Orn.* iii. pl. cviii. ♂ (circa 1835); *Blyth, J. A. S. B.* xii. p. 998 (1843); *Leith Adams, P. Z. S.* 1859, p. 173; *Sundev. Consp. Av. Picin.* p. 59 (1866).

Picus dimidiatus (*non Temm.*), *Gray, Hardw. Ill. Ind. Zool.* i. pl. xxix. fig. 1 (1830–32).

Malacolophus squamatus, *Swains. Classif. B.* ii. p. 308 (1837).

Chrysoptilus squamatus, *Vig. P. Z. S.* 1841, p. 6.

Brachylophus squamatus *v.* nepalensis, *Hodgs. Icon. ined. in Brit. Mus.* no. 148 (♂ ♀).

Brachylophus squamatus, *Hodgs. in Gray's Zool. Misc.* p. 85 (1844).

Gecinus squamatus, *Gray, Gen. B.* ii. p. 438 (1846); *Blyth, Cat. B. Mus. As. Soc.* p. 57, no. 260 (1849); *Bp. Consp. Gen. Av.* i. p. 127 (1850); *id. Consp. Volucr. Zygod.* p. 10 (1854); *Reichenb. Scans. Picinæ*, p. 350, no. 801, pl. dcxxvii. figs. 4174–75 (1854); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 659, no. 959 (1856–58); *Leith Adams, P. Z. S.* 1858, p. 475; *Jerd. B. Ind.* i. p. 286 (1862); *Beavan, Ibis*, 1867, p. 138; *Tytler, op. cit.* 1868, p. 202; *Pelz. tom. cit.* p. 320; *Gray, List Picid. Brit. Mus.* p. 76 (1868); *Beavan, Ibis*, 1869, p. 414; *Gray, Hand-l. B.* ii. p. 192, no. 8684 (1870); *Jerd. Ibis*, 1872, p. 9; *Cock & Marsh. Str. F.* 1873, p. 350; *Bidd. op. cit.* 1880, p. 314; *id. Ibis*, 1881, p. 49; *Scully, tom. cit.* p. 430; *id. Str. F.* x. p. 102 (1881); *Marshall, Ibis*, 1884, p. 410; *Harg. op. cit.* 1888, p. 153.

Chloropicus squamatus, *Malh. Picidæ*, ii. p. 131, pl. lxxviii. figs. 1–3 (1862).

Gecinus flavirostris*, *Menzbier* (*ex Zarudnoi, MS.*), *Bull. Nat. Mosc.* 1886, pt. 1, p. 440.

Gecinus zarudnoi, *Menzbier, Ibis*, 1887, p. 301.

Adult male. Above, including scapulars and wing-coverts, uniform green; bastard-wing black with whitish spots; primary-coverts similar, but having greyish spots; quills dusky, outer webs of the primaries margined at the base with green and barred with white, those of the secondaries partially or entirely green, and having indistinct greyish spots; inner webs spotted or partially barred with white; shafts brownish black; rump and upper tail-coverts green, the feathers tipped with chrome-yellow; tail black, edged at the base with olive-yellow, and narrowly barred with buffy white: shafts black; nasal plumes, base of the forehead, and outer edge of the crown black; forehead, crown, occiput, and nape crimson; a spot

* Dr. Menzbier has not, in my opinion, satisfactorily shown that his *G. flavirostris* is the same as my *G. gorii*, and I cannot separate his species from *G. squamatus*. The specific name of *zarudnoi* was subsequently given by Dr. Menzbier to the same bird, on account of his previous name having been (as he imagined) preoccupied; but the species to which the name of *Picus flavirostris* was given by the Abbé David is not a *Gecinus*, but is *Hypopicus hyperythrus*.

in front of the eye and a short streak behind it black; a broad yellowish-white superciliary stripe, and another from the white lores passing under the ear-coverts; sides of the face smoky green, varied with greenish white; malar stripe streaked black and white; sides of the neck and hind neck green; chin, throat, fore neck, and chest pale smoky green; underparts, including under tail-coverts, yellowish white, the feathers with a broad intermarginal line and occasional shaft-streak of black, and having a scaly appearance; under wing-coverts yellowish white, with V-shaped markings of black; axillaries white, barred with black: "irides, a circle of dark pinkish red round the black pupil, surrounded by a second ring of light pink; upper mandible horn-coloured at the base, the tip and the whole of the lower mandible being of a brightish yellow" (*R. C. Beavan*). Total length 13·5 inches, culmen 1·85, wing 6·25, tail 4·65, tarsus 1·1; toes (without claws)—outer anterior 0·8, outer posterior 0·72, inner anterior 0·63, inner posterior 0·45.

Young male. Has the upper parts and wing-coverts dusky, the margins only of the feathers being green, and on the rump tinged with yellow; the greater wing-coverts and outer webs of the secondaries crossed with greenish-white markings; the quills tipped with white; the top of the head black, the base of the forehead spotted with grey, the other feathers tipped with red or orange-red; chin and throat uniform smoky white; sides of the neck and fore neck smoky grey, the feathers having blackish centres or V-shaped spots; the chest like the remaining underparts, but less yellow than in the adult, and the black markings not so clearly defined.

Adult female. Differs from the adult male in the absence of red on the head, the whole of the top of the head and nape being black, the coronal feathers margined with smoky grey and having a streaked appearance. Total length 13·5 inches, culmen 1·9, wing 6·35, tail 4·5, tarsus 1·3.

Hab. Northern range, Gilgit; into Cashmere and Afghanistan, and through the Himalayas to Kumaon and Nepal.

a. ♀ ad. sk.	Afghanistan (*Griffith*).	India Museum.
b, c. ♂ ♀ ad. sk.	Cashmere.	E. M. Langworthy, Esq. [P.].
d, e. ♂ ad. sk.	Cashmere (*Dr. Bellew*).	India Museum.
f. ♀ ad. sk.	Gilgit, March 4, 1879 (*J. Biddulph*).	Hume Coll.
g. ♀ ad. sk.	Dhurmsala, Cashmere, April 1870.	Hume Coll.
h, i. ♂ ad. et ♂ juv. sk.	Murree.	Colonel Way [P.].
k, l. ♂ ad.; *m.* ♀ juv. sk.	N.W. Himalayas.	Stackhouse Pinwill, Esq. [P.].
n, o. ♂ ♀ ad. sk.	Kotekhaie, Feb. 20, 1871.	Hume Coll.
p, q. ♂ ♀ ad.; *r.* ♂ juv. sk.	Kotegurh, June.	Hume Coll.
s–y. ♂ ad. et juv.; *z.* ♀ ad. sk.	Simla, April, July, Sept. (*R. C. Beavan*).	Tweeddale Coll.
a', b'. ♂ ad. et juv. sk.	Simla, July 20, 1868 (*A. O. H.*).	Hume Coll.

c'–k'. ♂ ad.; *l'–o'*. ♀ ad. sk.	Simla, July, Sept., Oct., Nov., Dec. (*W. Davison*).	Hume Coll.
p'. ♀ ad. sk.	Masuri (*Pinwill*).	Tweeddale Coll.
q'–t'. ♂ ad.; *u'*. ♀ ad. sk.	Masuri.	Hume Coll.
v'. ♂ ad. sk.	Dehra Dhoon, Oct. 19, 1866.	Hume Coll.
w'. ♂ ad.; *x'*, *y'*. ♀ ad. sk.	Naini Tal, Aug., Sept. 1886.	Hume Coll.
z'. ♀ ad. sk.	Almorah, Oct. 17, 1866.	Hume Coll.
a''. ♂ ad.; *b''*, *c''*. ♀ ad. sk.	Kumaon (*Strachey*).	India Museum.

6. Gecinus gorii.

Gecinus squamatus (*non Vigors*), *Swinhoe*, *Ibis*, 1882, p. 102.
Gecinus gorii, *Hargitt*, *Ibis*, 1887, p. 74, 1888, p. 159; *Sir O. B. St. John*, *op. cit.* 1889, p. 158; *Aitchison*, *Trans. Linn. Soc.* 2nd ser. *Zool.* v. p. 83, pl. vi. fig. 1 ♂ (1889).

Adult male. Above pale green, with a few dusky V-shaped markings, the feathers of the rump and the upper tail-coverts tipped with chrome-yellow; scapulars and wing-coverts pale green, barred with dusky green, the former having a few dusky V-shaped markings; bastard-wing black, spotted with creamy white on both webs; primary-coverts dusky black and similarly spotted, but with a greyer shade of colour; quills dusky black, the outer webs of the primaries broadly barred with creamy white, and more or less washed with green on the inner feathers, the inner webs spotted with white on the margin; the outer webs of the secondaries barred with greenish grey, the inner webs being transversely spotted with white along the whole margin; tail yellowish cream-colour, narrowly barred with blackish brown, the basal margin of the central feathers washed with yellowish olive, the lateral feathers yellow at the tip. (The head is very much damaged, but it has every appearance of having been similar to *G. squamatus*; the top of the head is red and the malar stripe is black and white.) Throat and chest uniform dull greenish yellow; the under surface of the body and under tail-coverts yellowish white, the feathers of the underparts having a thread-like intermarginal line or squamate marking of blackish olive; under wing-coverts yellowish white, transversely varied with black; underside of the tail washed with yellow. Total length 13 inches, culmen 1·8, wing 6·5, tail 4·7, tarsus 1·2; toes (without claws)—outer anterior 0·82, outer posterior 0·82, inner anterior 0·7, inner posterior 0·42.

Adult female. Differs from the adult male in the absence of red on the head. As the head, neck, upper back, and wing-coverts are much damaged in the male, the following is a description of these parts taken from the female:—Nasal plumes black; forehead, crown, occiput, and nape intense black; the face creamy grey, with a narrow black line behind the eye; the lores, a superciliary stripe, also a stripe under the ear-coverts, creamy white; cheeks white, striped with black; chin and throat creamy buff, shading into yellowish cream-colour on the chest, and greenish on the side of the neck; hind neck and upper back pale green, the feathers of the

latter having a central V-shaped dusky marking. Total length 13·5 inches, culmen 1·8, wing 6·05, tail 4·6, tarsus 1·15.

Hab. Southern Afghanistan.

a. ♂ ad. sk.	Padda Sultan, Helmand River, Afghanistan, Oct. 26, 1884.	Dr. Aitchison [C.]. (Type of species.)
b. ♀ ad. sk.	Quetta, Dec. 1877 (*Col. Swinhoe*).	Hume Coll.

7. Gecinus vittatus.

Picus vittatus, *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 91 (1818); *id. & Bonn. Enc. Méth.* p. 1317 (1823); *Drap. Dict. Class.* xiii. p. 505 (1828); *Less. Traité*, i. p. 221 (1831); *Sundev. Consp. Av. Picin.* p. 59 (1866), pt.

Picus affinis, *Rafft. Trans. Linn. Soc.* xiii. p. 288 (1821); *Vig. Mem. Rafft.* p. 668 (1830).

Picus dimidiatus, *Horsf. Gen. Cat. Jav. B.* (1824); *Valenc. Dict. Sc. Nat.* xl. p. 174 (1826); *Wagl. Syst. Av.* Picus, sp. 88, add. sp. 5 (1827); *Drap. Dict. Class.* xiii. p. 507 (1828); *Temm. Pl. Col.* texte, 85ᵉ livr. (1830).

Gecinus dimidiatus, *Boie, Isis*, 1831, p. 542; *Gray, Gen. B.* ii. p. 439 (1846); *Blyth* (pt.), *Cat. B. Mus. As. Soc.* p. 58, no. 262 (1849); *Bp. Consp. Gen. Av.* i. p. 127 (1850); *id. Consp. Volucr. Zygod.* p. 10 (1854); *Reichenb. Scans. Picinæ*, p. 350, no. 799, pl. dcxxi. figs. 4141, 4142 (1854), pt.; *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 660, no. 960 (1856–58); *Schomb. Ibis*, 1864, p. 257; *Vorderman, Batav. Vog.* pt. 2, p. 19 (1882).

Malacolophus dimidiatus, *Swains. Classif. B.* ii. p. 308 (1837).

Gecinus affinis, *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 662, no. 964 (1856–58).

Chloropicus dimidiatus, *Malh. Picidæ*, ii. p. 132, pl. lxxvi. figs. 4–6 (1862).

Gecinus vittatus, *Gray, List Picid. Brit. Mus.* p. 76 (1868), pt.; *id. Hand-l. B.* ii. p. 192, no. 8683 (1870), pt.; *Salvad. Ucc. Born.* p. 51 (1874); *Tiraut, Ois. Basse-Cochinchine*, p. 90 (1879); *Harg. Ibis*, 1888, p. 161.

Adult male. Above yellowish olive, the rump-feathers tipped with yellow; wing-coverts golden olive; bastard-wing and primary-coverts blackish brown, spotted with yellowish grey; quills blackish brown, both webs of the primaries and inner webs of the secondaries spotted with white, outer webs of secondaries with almost obsolete greenish-white spots; shafts brownish black; tail and the shafts black; forehead, crown, occiput, and nape red, the forehead and crown edged with black; lores and face dull white, the ear-coverts mouse-grey; the white forming two stripes, one above, the other below the eye; malar stripe black; chin, the whole of the neck, and the chest uniform ochreous yellow, sometimes tinged with green; underparts yellowish white, the feathers having an intermarginal line of olive-green; under tail-coverts whitish, with an intermarginal line and shaft-streak of blackish olive, the lower series greenish grey; under wing-coverts and axillaries yellowish white, the former spotted, the latter barred with black. Sometimes the central tail-feathers, or the outer large feather, have a few trans-

verse spots. Total length 12 inches, culmen 1·4, wing 5·3, tail 3·8, tarsus 1·1; toes (without claws)—outer anterior 0·92, outer posterior 0·8, inner anterior 0·57, inner posterior 0·4.

Adult female. Has the forehead, crown, and occiput black, but is in other respects like the adult male. Total length 10·5 inches, culmen 1·22, wing 5, tail 3·7, tarsus 1·1.

Young. The males have the red on the head more of an orange-scarlet, and the general colour of the plumage is duller. In the nestling-stage not only are the neck and chest uniform, but the underparts are nearly so, the dark markings found in the adult being almost obsolete, except on the sides of the body, flanks, and thighs.

Hab. Cochin-China (*Germain & Pierre*); Cambodia (*Harmand*); Siam (*Bocourt*), and probably ranging down the eastern portion of the Malayan Peninsula to the south, having been obtained at Jurrum and Klang; Sumatra and Java.

a. ♂ ad.; *b, c.* ♀ ad. sk.	Java.	Tweeddale Coll.
d. ♀ juv. sk.	Java.	Purchased.
e. ♂ ad. sk.	E. Java.	A. R. Wallace, Esq. [C.].
f, g, h. ♂ ad. et juv.; *i, k, l.* ♀ imm. sk.	Java (*Horsfield*).	India Museum.
m, n. ♀ ad. sk.	Salangore, Jan., Dec. (*W. Davison*).	Hume Coll.
o, p, q. ♂ ad.; *r, s.* ♀ ad. sk.	Klang, Salangore, Feb. 1880 (*W. Davison*).	Hume Coll.
t. ♂ ad. sk.	Mt. Sabab, Siam (*Mouhot*).	Gould Coll.
u, v. ♂ ad. et imm. sk.	Bangkok, March, April 1872 (*Capt. Conrad*).	R. B. Sharpe, Esq. [P.].
w, x, y. ♂ ad.; *z.* ♀ ad.; *a'.* ♂ juv. sk.	Cochin China.	Mons. E. Pierre [P.].
b'. Skeleton.	Java.	Eyton Coll.
c'. Skeleton.	Java.	Purchased.

8. Gecinus viridanus.

Picus squamatus (*non Vig.*), *Blyth, J. A. S. B.* x. p. 923 (1841), ♂ juv.

Picus viridanus, *Blyth, J. A. S. B.* xii. p. 1000 (1843); *id. op. cit.* 1844, App. p. 394.

Gecinus dimidiatus (*non Temm.*), *Blyth, Cat. B. Mus. As. Soc.* p. 58, no. 262 (1849), pt.; *Reichenb. Scans. Picinæ*, p. 350, no. 799, pl. dcxxi. figs. 4141, 4142 (1854), pt.; *Gould, P. Z. S.* 1859, p. 150.

Gecinus viridanus, *Gray, Gen. B.* ii. p. 438 (1846); *id. op. cit.* iii. App. p. 21 (1849); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 660, no. 961 (1856–58); *Wald. P. Z. S.* 1866, p. 539; *Blyth, Ibis*, 1870, p. 163; *id. & Wald. B. Burm.* p. 76 (1875); *Oates, B. Brit. Burm.* ii. p. 48 (1883); *Harg. Ibis*, 1888, p. 166.

Picus vittatus (pt.), *Sundev. Consp. Av. Picin.* p. 59 (1866).

Gecinus vittatus (*non Vieill.*), *Gray, List Picid. Brit. Mus.* p. 76 (1868), pt.; *id. Hand-l. B.* ii. p. 192, no. 8683 (1870), pt.; *Hume, Str. F.* 1874, p. 471; *id. & Oates, op. cit.* 1875, pp. 14, 68; *Armstr. op. cit.* 1876, p. 310; *Hume, op. cit.* 1877, p. 113; *id. & Davison, op. cit.* 1878, p. 136; *Hume, op. cit.* 1879, pp. 52, 160; *Bingh. op. cit.* 1880, p. 163; *Oates, op. cit.* x. p. 191 (1882).
Gecinus weberi, *Müll. Orn. Ins. Salanga*, p. 69 (1882).

Adult male. Bears a very close resemblance to *G. vittatus*, and has the upper parts, wings, and head almost identical. It, however, differs from the latter in never having the chest uniform, this being always, and the chin and throat generally, striated or marked similarly to the under surface of the body; the malar region is black, striped with pure white; tail-feathers more spotted on the margin: "upper mandible and gonys of lower mandible blackish horny, rest of lower mandible pale yellow, the tip horn-black; eyelids slate-colour; irides dark red; feet dusky green; claws horny brown" (*E. W. Oates*). Total length 12 inches, culmen 1·6, wing 5·4, tail 3·9, tarsus 1·25; toes (without claws)—outer anterior 0·97, outer posterior 0·85, inner anterior 0·7, inner posterior 0·4.

Adult female. Differs from the male in the absence of red on the head, the whole of the top of the head, occiput, and nape being black. Total length 11·5 inches, culmen 1·45, wing 5·15, tail 4, tarsus 1·1.

Young. The sexes differ like the adult. In the nestlings the underparts are duller and more smoky, and the dark markings are very much less distinct than in the adult; the ear-coverts are darker; the malar patch is almost entirely black, and in the male the red on the head is orange-scarlet.

This species presents many phases of coloration both in the young and in the adult, varying from dark green to golden olive or golden brown, the former type being characteristic of Dr. A. Müller's *G. weberi* from Salanga.

Hab. Pegu; Tenasserim and the Malay Peninsula to Salanga, and extending to Bangkok, Siam (*Harmand*).

a, b. ♂ ad. et imm. sk.	Burmah (*Major Houghton*).	Tweeddale Coll.
c. ♂ ad. sk.	Tonghoo hills, Burmah, March 13, 1875 (*R. G. W. R.*).	Tweeddale Coll.
d, e. ♂ ♀ ad. sk.	Tonghoo, May, Dec. (*R. G. W. R.*).	Tweeddale Coll.
f. ♂ ad. sk.	Pegu.	W. T. Blanford, Esq. [C.].
g. ♀ ad. sk.	Arakan hills, Jan. 1872 (*E. W. Oates*).	Hume Coll.
h. ♂ ad. sk.	China Ba-Keer, Rangoon, Dec. 20, 1875 (*J. Armstrong*).	Hume Coll.
i. ♂ ad.; *k, l.* ♀ ad. sk.	Tenasserim.	India Museum.
m, n, o. ♂ ad.; *p, q.* ♀ ad. sk.	Pahpoon, Dec., Jan. (*W. Davison*).	Hume Coll.

r. ♂ ad. sk.	Near Kadoe, Sittang River, Feb. 5, 1876 (*W. Davison*).	Hume Coll.
s. ♀ ad. sk.	Theinzeik, Dec. 13, 1876 (*W. Davison*)	Hume Coll.
t. ♀ ad. sk.	Thamban, Thatone, Jan. 20, 1878 (*W. Davison*).	Hume Coll.
u. ♀ ad. sk.	Thatone Creek, Dec. 9, 1876 (*W. Davison*).	Hume Coll.
v, *w*, *x*. ♂ ad.; *y*, *z*. ♀ ad. sk.	Thatone, Nov., Dec. (*W. Davison*).	Hume Coll.
a', *b'*, *c'*. ♂ ad.; *d'*. ♀ ad. sk.	Wimpong, Dec. 1876 (*W. Davison*).	Hume Coll.
e'. ♂ ad. sk.	Thenganee Sakan, Jan. 17, 1877 (*W. Davison*).	Hume Coll.
f', *g'*. ♂ ♀ ad. sk.	Myawadee, Jan. 1877 (*W. Davison*).	Hume Coll.
h'. ♀ ad. sk.	Myawadee, Oct. 1, 1877 (*C. T. Bingham*).	Hume Coll.
i'. ♂ ad. sk.	Schouay Goon, Salween River, Aug. 1865 (*R. C. Beavan*).	Tweeddale Coll.
k'. ♂ ad. sk.	Moulmein, Oct. 9, 1865 (*R. C. Beavan*).	Tweeddale Coll.
l'. ♂ ad. sk.	Moulmein, March 22, 1874 (*W. Davison*).	Hume Coll.
m'. ♀ ad. sk.	Karope, April 23, 1874 (*W. Davison*).	Hume Coll.
n'. ♀ ad. sk.	Amherst, March 3, 1877 (*J. Armstrong*).	Hume Coll.
o', *p'*. ♂ juv.; *q'*, *r'*. ♀ ad. sk.	Amherst, Jan., June, July, Dec. (*W. Davison*).	Hume Coll.
s', *t'*. ♂ ad.; *u'*. ♀ ad. sk.	Yea, March, April (*W. Davison*).	Hume Coll.
v', *w'*. ♂ ♀ ad. sk.	Meeta Myo, April 23, 1874 (*W. Davison*).	Hume Coll.
x'–*a''*. ♂ ad.; *b''*, *c''*. ♀ ad. sk.	Tavoy, Jan., March, May 1874 (*W. Davison*).	Hume Coll.
d'', *e''*. ♂ ♀ ad. sk.	Shymotee, May 5, 1874 (*W. Davison*).	Hume Coll.
f''. ♂ ad. sk.	Mergui Island, Jan. 7, 1874 (*W. Davison*).	Hume Coll.
g''. ♂ ad.; *h''*, *i''*. ♀ ad. sk.	Mergui, Nov., Dec. (*W. Davison*).	Hume Coll.
k'', *l''*. ♂ ad. sk.	Thamoti, Mergui dist., Nov. 13, 1874 (*W. Davison*).	Hume Coll.
m''. ♀ imm. sk.	Chout-pya, Mergui dist., Nov. 12, 1874 (*W. Davison*).	Hume Coll.
n''. ♂ ad. sk.	Bopyin, Dec. 21, 1874 (*W. Davison*).	Hume Coll.
o''. ♀ ad. sk.	Tenasserim Town, Nov. 28, 1874 (*W. Davison*).	Hume Coll.
p'', *q''*. ♂ ♀ ad. sk.	Pakchan, Jan. 15, 1875 (*W. Davison*).	Hume Coll.
r''. ♂ ad. sk.	Bankasoon, March 22, 1875 (*W. Davison*).	Hume Coll.
s''. ♂ ad. sk.	Meplaychoung, Thoungyeen, Feb. 7, 1880 (*C. T. Bingham*).	Hume Coll.

t''. ♂ ad.; *u''*. ♀ juv. sk.	Kaukaryit, May, June (*J. Darling*).	Hume Coll.
v''. ♀ ad. sk.	Phagat, Nov. 27, 1877.	Hume Coll.
w'', *x''*. ♀ ad.; *y''*, *z''*. ♂ ♀ imm. sk.	Poongah, Sept. 1879 (*J. Darling*).	Hume Coll.
*a*³, *b*³. ♂ ♀ ad. sk.	Island of Salanga, Feb., March.	Capt. Weber [C.]. (Types of *G. weberi*.)
*c*³. ♂ ad. sk.	Island of Salanga, Jan. (*J. Darling*).	Hume Coll.
*d*³–*g*³. ♂ ad.; *h*³, *i*³, *k*³. ♀ ad. sk.	Salang, Salanga, Jan., Feb., March 1879 (*J. Darling*).	Hume Coll.
*l*³. ♂ ad.; *m*³, *n*³, *o*³. ♀ ad. sk.	Taroar, Feb. 1879 (*J. Darling*).	Hume Coll.
*p*³, *q*³, *r*³. ♂ ad.; *s*³, *t*³, *u*³. ♀ ad. et juv. sk.	Tapraw, April 1879 (*J. Darling*).	Hume Coll.
*v*³–*d*⁴. ♂ ad. et imm.; *c*⁴–*i*⁴. ♀ ad. sk.	Kossoum, May, June, July (*J. Darling*).	Hume Coll.

9. Gecinus striolatus.

Brachylophus squamatus (*non Vig.*), *Jerd. Madr. Journ.* 1840, p. 213.

Picus striolatus, *Blyth, J. A. S. B.* 1843, p. 1000; *Jerd. Madr. Journ.* xiii. pt. 2, p. 138 (1844); *Sundev. Consp. Av. Picin.* p. 60 (1866).

Brachylophus xanthopygæus, *Hodgs. Icon. ined. in Brit. Mus.* nos. 147, 148 (♂ ♀); *id. in Gray's Zool. Misc.* p. 85 (1844).

Gecinus striolatus, *Gray, Gen. B.* ii. p. 439; *id. Cat. Mamm. &c. Nepal, pres. Hodgs.* p. 117 (1846); *Blyth, Cat. B. Mus. As. Soc.* p. 57, no. 261 (1849); *Reichenb. Scans. Picinæ*, p. 350, no. 800, pl. dcxxi. fig. 4143 (1854); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 660, no. 962 (1856–58); *Jerd. B. Ind.* i. p. 287 (1862); *Gray, Cat. Mamm. &c. Nepal, pres. Hodgs.* 2nd ed. p. 63 (1863); *id. List Picid. Brit. Mus.* p. 77 (1868); *id. Hand-l. B.* ii. p. 192, no. 8685 (1870); *Blanf. Ibis*, 1870, p. 464; *Elwes, tom. cit.* p. 527; *Jerd. op. cit.* 1872, p. 9; *Legge, Str. F.* 1873, p. 488; *Ball, op. cit.* 1874, p. 391; *Legge, Ibis*, 1875, p. 412; *Blyth & Wald. B. Burm.* p. 76 (1875); *Hume & Oates, Str. F.* 1875, p. 68; *Butler, tom. cit.* p. 458; *Godwin-Austen, J. A. S. B.* 1876, p. 70; *Inglis, Str. F.* 1877, p. 26; *Fairbank, tom. cit.* p. 396; *Ball, tom. cit.* p. 413; *Anders. Yunnan Exped.* i. p. 585 (1878), pt.; *Hume & Davison, Str. F.* 1878, vi. p. 136; *Davids. & Wend. op. cit.* vii. p. 78 (1878); *Ball, tom. cit.* p. 206; *Cripps, tom. cit.* p. 262; *Godwin-Austen, J. A. S. B.* 1878, p. 14; *Hume, Str. F.* 1879, p. 87; *Scully, tom. cit.* pp. 247, 368; *Butler, B. Sind &c. and Mount Aboo*, p. 19 (1879); *id. B. S. Bomb. Pres.* p. 24 (1880); *id. Str. F.* 1880, p. 386; *Legge, B. Ceyl.* p. 194 (1880); *Oates, Str. F.* x. p. 191 (1882); *W. Davison, tom. cit.* p. 355; *Oates, B. Brit. Burm.* ii. p. 49 (1883); *Harg. Ibis*, 1888, p. 171.

Gecinus xanthopygius, *Bp. Consp. Gen. Av.* i. p. 127 (1850); *id. Consp. Volucr. Zygod.* p. 10 (1854); *Reichenb. Scans. Picinæ*, p. 350, no. 802 (1854).

Chloropicus striolatus, *Malh. Picidæ*, ii. p. 134, pl. lxxvii. figs. 1 & 2 (1862).

Adult male. Above, including scapulars and wing-coverts, yellowish

olive, the feathers of the rump and the upper tail-coverts margined with chrome-yellow; bastard-wing, primary-coverts, and quills dusky brown spotted with white on both webs, the outer webs of the secondaries washed with yellowish olive; shafts brownish black: tail blackish brown, the feathers having indistinct spots of greenish or brownish grey at the base, the penultimate feather barred to the tip; shafts brown with black tips; nasal plumes brownish black; top of the head and the occiput scarlet, face smoky grey striped with dusky, the lores, a stripe under the ear-coverts and one above the eye white; malar region white, striped with dusky olive and yellowish; side of the neck and the hind neck yellowish olive, the former striped with pale yellow; from the chin to the vent (inclusive) yellowish white, the fore neck and chest strongly washed with yellow, the chin and throat striped, the remainder of the feathers having an intermarginal line and an occasional shaft-stripe of olive or brown; under tail-coverts white with a broad shaft-stripe and intermarginal line of brown; under wing-coverts and axillaries yellowish white, with V-shaped markings of dusky brown: "bill plumbeous dusky, the basal three fourths of the lower mandible yellowish green horny; irides carmine-red; feet dingy plumbeous" (*Scully*). Total length 11 inches, culmen 1·35, wing 4·9, tail 3·3, tarsus 1; toes (without claws)—outer anterior 0·77, outer posterior 0·68, inner anterior 0·55, inner posterior 0·4.

Young male. Resembles the adult male but is darker above, and has the red on the head of an orange-scarlet; a stripe of black bordering the forehead and crown; ear-coverts darker, and the malar region striped with dusky black; under surface of the body less green.

Adult female. Differs from the adult male in having the forehead, crown, and occiput black, the feathers of the forehead and crown edged with ashy brown and having a striped appearance. Total length 11 inches, culmen 1·27, wing 4·9, tail 3·3, tarsus 1.

Hab. India generally, Ceylon, Assam, Cachar, and Burmah, and also in Siam (judging by a young bird obtained at Pitchaburree by M. Pierre, and which I take to belong to this species), and Cochin China (*Jullien*).

a. ♂ ad. sk.	Nillgalla Park, Ceylon, Jan. 13, 1867.	Tweeddale Coll.
b, c. ♀ ad. sk.	Seegool, Nilghiris, Feb. 19, 1881.	Hume Coll.
d. ♂ ad. sk.	Kullar, Coonoor Ghat, Sept. 22, 1876 (*R. G. W. R.*).	Tweeddale Coll.
e, f. ♂ ad. sk.	Kullar, Coonoor Ghat, Aug. 19, 1867.	Hume Coll.
g, h, i. ♂ ad.; *k.* ♀ ad. sk.	Kotagherry, Nilghiris, March, Nov., Dec. (*Miss Cockburn*).	Hume Coll.
l. ♀ ad.; *m.* ♂ imm. sk.	Malabar.	Tweeddale Coll.
n, o. ♂ ♀ ad. sk.	Madras.	T. C. Jerdon, Esq. [P.].

p. ♂ ad. sk.	Satpura Hills, Jan. 1874.	Hume Coll.
q. ♂ ad. sk.	Surjuja, Feb. 1872.	Hume Coll.
r. ♀ ad. sk.	Sumbalpur, Dec. 14, 1870.	Hume Coll.
s. ♀ ad. sk.	Bhundara distr., March 12, 1870.	Hume Coll.
t, *u.* ♂ ♀ ad. sk.	Aboo.	E. A. Butler Coll.
v, *w.* ♂ ♀ imm. sk.	Sambhur.	Hume Coll.
x. ♂ ad. sk.	Umbala, Feb. 1867 (*Dr. Scott*).	Tweeddale Coll.
y. ♀ ad. sk.	Lallong, Gurhwal Bhabur, Dec. 29, 1869.	Hume Coll.
z. ♂ ad. sk.	Gurhwal, Jan. 11, 1870.	Hume Coll.
a', *b'.* ♂ ad. sk.	Masuri.	Hume Coll.
c'. ♂ ad.; *d'.* ♀ imm. sk.	Dehra, Jan., Dec.	Hume Coll.
e'. ♂ ad. sk.	Kalsi, Dehra Dhoon.	Hume Coll.
f', *g'.* ♂ ♀ ad. sk.	Siwalik Range, March 1867 (*Dr. Scott*).	Tweeddale Coll.
h'. ♂ ad. sk.	Kumaon.	Tweeddale Coll.
i'. ♂ ad. sk.	Kumaon (*Strachey*).	India Museum.
k'. ♂ ad. sk.	Kumaon.	Hume Coll.
l'. ♀ ad. sk.	Oudh Terai (*S. Pinwill*).	Tweeddale Coll.
m'. ♂ ad. sk.	Nepal Valley, Dec. 19, 1877 (*J. Scully*).	Hume Coll.
n', *o'*, *p'.* ♂ ad.; *q'.* ♂ imm.; *r'*, *s'.* ♀ ad. sk.	Nepal.	Hodgson Coll.
t', *u'.* ♂ ♀ ad. sk.	Nepal. (Types of *Brachylophus xanthopygæus*, Hodgs.)	Hodgson Coll.
v', *w'.* ♂ ♀ ad. sk.	Nepal (*B. H. Hodgson*).	India Museum.
x'. ♂ ad. sk.	Darjeeling.	Hume Coll.
y'. ♂ ad. sk.	Buxa Doars, Feb. 1878 (*L. Mandelli*).	Hume Coll.
z', *a''*, *b''.* ♂ ad.; *c''*, *d''.* ♀ ad. sk.	Bhotan Doars, Jan., Feb., March (*L. Mandelli*).	Hume Coll.
e''. ♂ juv. sk.	Assam (*McClelland*).	India Museum.
f''. ♂ juv. sk.	Khasia Hills (*Griffith*).	India Museum.
g''. ♀ ad. sk.	Cachar.	Hume Coll.
h''. ♀ ad. sk.	Dacca, 1871.	Hume Coll.
i''. ♂ ad.; *k''.* ♂ imm. sk.	Burmah (*H. Feilden*).	Tweeddale Coll.
l''. ♀ ad. sk.	Thayetmyo, Dec. 23, 1871.	Hume Coll.
m''. ♂ ad. sk.	Thayetmyo.	Tweeddale Coll.
n''. ♀ ad. sk.	Tonghoo.	Tweeddale Coll.
o''. ♀ ad. sk.	Pegu.	W. T. Blanford, Esq. [C.].
p''. ♂ juv. sk.	Pitchaburree River, Siam, Aug. 1868.	Mons. E. Pierre [P.].
q''. Bones of trunk.		Old Collection.

10. Gecinus canus.

The Grey-headed Green Woodpecker, *Edwards, Nat. Hist. Birds*, ii. pl. lxv. ♀ (1747); *Lath. Gen. Syn.* ii. p. 583 (1782).
Le Pic verd de Norwège, *Briss. Orn.* iv. p. 18 (1760).

The Grey-headed Woodpecker, *Penn. Arct. Zool.* ii. p. 277 (1785).

Picus canus, *Gm. Syst. Nat.* i. p. 434 (1788), *ex Edwards*; *Licht. Cat. Rer. Hamb.* p. 18 (1793); *Temm. Man. d'Orn.* i. p. 393 (1820); *Brehm, Naturg. Eur. Vög.* i. p. 135 (1823); *Roux, Orn. Prov.* i. p. 95, pl. lix. (1825); *Valenc. Dict. Sc. Nat.* xl. p. 169 (1826); *Naum. Vög. Deutschl.* v. p. 286, pl. 133 (1826); *Risso, Eur. Mérid.* iii. p. 60 (1826); *Wagl. Syst. Av.* Picus, sp. 33 (1827); *Werner, Atlas*, pl. 202 (1827); *Less. Traité*, i. p. 218 (1831); *Ménétr. Cat. Rais. Cauc.* p. 46, no. 132 (1832); *Gould, B. Eur.* iii. pl. 227, ♂ ♀ ad. (1837); *Schinz, Wirb. Schweiz*, p. 92 (1837); *Keys. & Blas. Wirb. Eur.* p. 147 (1840); *Schleg. Rev. Crit. Ois. d'Eur.* p. xlix (1844); *V. d. Mühle, Orn. Griechenl.* p. 30 (1844); *Schlegel, Vog. Nederl.* p. 80, pl. 49, ♂ ♀ (1854–58); *Linderm. Vög. Griechenl.* p. 41 (1860); *Brec, B. Eur.* iii. p. 136 pl. ♂ (1862); *Sundev. Consp. Av. Picin.* p. 61 (1866); *Sabanaeff, Bull. Mosc.* xlii. pt. 2, pp. 185–197 (1869); *Elw. & Buckl. Ibis*, 1870, p. 188; *David, Nouv. Arch. du Mus.* 1871, *Bull.* vii. p. 4; *Mommsen, Griech. Jahresz.* pt. iii. p. 186 (1875); *Harv.-Brown, Proc. Nat. Hist. Soc. Glasg.* 1877, p. 288 (*ex Sabanaeff*); *Seeb. Ibis*, 1882, p. 209.

Picus norvegicus, *Lath. Ind. Orn.* i. p. 236 (1790); *Vieill. N. Dict.* xxvi. p. 99 (1818).

Picus viridi-canus, *Meyer & Wolf, Taschenb. Vögelk.* i. p. 120 (1810).

Picus chlorio, *Pall. Zoogr. Rosso-Asiat.* i. p. 408 (1811).

Picus caniceps, *Nils. Orn. Suec.* i. p. 105 (1817).

Gecinus canus, *Boie, Isis*, 1831, p. 542; *Brehm, Vög. Deutschl.* p. 200 (1831); *Gray, Gen. B.* ii. p. 438 (1846); *Bp. Consp. Gen. Av.* i. p. 126 (1850); *id. Consp. Volucr. Zygod.* p. 10 (1854); *Reichenb. Scans. Picinæ*, p. 348, no. 794, pl. dcxx. figs. 4135, 4136 (1854); *Powys, Ibis*, 1860, p. 235; *Swinh. op. cit.* 1861, p. 338; *Blakist. op. cit.* 1862, p. 325; *Swinh. P. Z. S.* 1862, p. 319; *id. op. cit.* 1863, pp. 267, 333; *Lilford, Ibis*, 1866, p. 176; *Whitely, op. cit.* 1867, p. 195; *Degl. & Gerbe, Orn. Eur.* i. p. 157 (1867); *Gray, List Picid. Brit. Mus.* p. 74 (1868); *id. Hand-l. B.* ii. p. 191, no. 8677 (1870); *Salvad. Faun. d'Ital. Ucc.* p. 35 (1871); *Saund. Ibis*, 1871, p. 65; *Swinh. P. Z. S.* 1871, p. 392; *Dubois, Consp. Av. Eur.* p. 19 (1871); *Bogd. B. Volga*, p. 60, no. 42 (1871); *Dress. B. Eur.* v. p. 95, pl. cclxxxviii. (1872); *Alst. & Harv.-Brown, Ibis*, 1873, p. 59; *Irby, Orn. Str. Gibr.* p. 72 (1875); *Swinh. Ibis*, 1875, p. 124; *Danf. & Brown, tom. cit.* p. 298; *Swinh. tom. cit.* p. 451; *Blanf. Zool. E. Pers.* ii. p. 136 (1876); *Tacz. Bull. Soc. Zool. France*, 1876, p. 239; *Prjevalsky, B. Mongolia, in Rowley's Orn. Misc.* ii. p. 279 (1877); *David & Oust. Ois. Chine*, p. 51 (1877); *Saund. Bull. Soc. Zool. France*, 1877, p. 325; *Tacz. op. cit.* 1878, p. 139; *Blakist. & Pryer, Ibis*, 1878, p. 229; *Bogd. B. Cauc.* p. 120 (1879); *Goebel, Vög. Uman. Kr.* p. 154, no. 140 (1879); *Russow, Orn. Esth-, Liv- u. Kurl.* p. 118 (1880); *Brandt, J. f. O.* 1880, p. 229; *Seeb. Ibis*, 1880, p. 181; *Gigl. op. cit.* 1881, p. 191; *Wharton, tom. cit.* p. 257; *Collett, Norg. Fuglef.* p. 314 (1881); *Blakist. & Pryer, Trans. As. Soc. Jap.* 1882, p. 136; *Seeb. Ibis*, 1882, p. 373, 1883, p. 23; *Radde, Orn. Cauc.* p. 307 (1884); *Gigl. Avif. Ital.* p. 206 (1886); *Salvad. Ucc. Ital.* p. 67 (1887); *Harg. Ibis*, 1888, p. 15; *Tacz. P. Z. S.* 1888, p. 466.

Colaptes canus,
Colaptes viridicanus,
Colaptes caniceps,
} *Brehm, Isis*, 1828, p. 1274.

Gecinus viridicanus, } *Brehm, Vög. Deutschl.* pp. 199, 201 (1831).
Gecinus caniceps, }
Malacolophus canus, *Swains. Classif. B.* ii. p. 308 (1837).
Chloropicus canus, *Malh. Picidæ,* ii. pp. 124, 294, pl. lxxxi. figs. 1, 2 (1862).
Picus canus jessoensis*, *Stejneger, Proc. U. S. Nat. Mus.* 1886, p. 106.
Picus canus perpallidus, *Stejneger, Proc. U. S. Nat. Mus.* 1886, p. 107 (footnote).

Adult male. Back, scapulars, rump, and upper tail-coverts yellowish olive, the feathers of the rump and the upper tail-coverts broadly tipped with chrome-yellow; wing-coverts and outer webs of the secondaries more golden green, the remaining portion of the quills dusky brown, the outer webs of the primaries spotted with dingy white and margined with green at the base, the secondaries having almost obsolete spots of smoky grey on the outer webs; inner webs of the quills spotted with pure white, except on the apical portion of the primaries; shafts dusky brown; tail greyish brown, the basal portion of the central pair of feathers and the lateral feathers chiefly on their outer webs, with bar-like spots of grey; shafts dusky brown; nasal plumes black; top of the head and nape greenish grey, with a large coronal patch of crimson; face grey, grading into green on the side of the neck, with a small spot of black in front of the eye and a narrow black malar stripe; from the chin to the under tail-coverts, both inclusive, greyish white, the chest and breast, particularly, and the underparts, in a lesser degree, washed with green, the under tail-coverts having crescentic and V-shaped dusky markings; under wing-coverts and axillaries white tinged with yellow and barred with dusky black: "bill horny brown, more coloured above than below; iris pale red; feet black" (*Degl. & Gerbe*). Total length 12 inches, culmen 1·65, wing 5·8, tail 3·95, tarsus 1·1; toes (without claws)—outer anterior 0·85, outer posterior 0·8, inner anterior 0·6, inner posterior 0·37.

Adult female. Differs from the adult male in having no red on the head, the forehead and crown being greenish grey streaked with blackish. Total length 11·1 inches, culmen 1·4, wing 5·55, tail 3·9, tarsus 0·95.

Hab. Throughout the greater part of Europe, in Southern and Eastern Siberia, Manchuria, Corea, Mongolia, Northern China, and in the Island of Yezo.

a, b. ♂ ♀ ad. sk.	Norway.	Salvin-Godman Coll.
c. ♀ ad. sk.	Wermland, Dec. 1872.	W. Meves [C.].
d. ♂ ad. sk.	Wermland, Jan. 22, 1874 (*W. Meves*).	R. B. Sharpe, Esq. [P.].
e, f. ♂ ♀ ad.; *g.* ♂ juv. sk.	Gadsjo, Sweden, Jan., Dec. (*H. Wheelwright*).	Tweeddale Coll.
h. ♂ imm. sk.	Denmark (*R. G. W. R.*).	Tweeddale Coll.

* In 'The Ibis' for 1888, pp. 19–21, I have stated fully my reasons for uniting this and also Dr. Stejneger's *Picus canus perpallidus* with *G. canus.*

i. ♂ ad. sk.	Black Forest (*R. G. W. R.*).	Tweeddale Coll.
k. ♂ ad. sk.	Cukarora, Turkey, Dec. 29, 1872 (*Sintenis*).	Hume Coll.
l. Juv. sk.	Tientsin, China.	Tweeddale Coll.
m. ♀ ad. sk.	Chekiang, China (*W. Pryer*).	Tweeddale Coll.
n–q. ♂ juv.; *r.* ♀ ad. sk.	South Manchuria, June 3, 1886.	H. E. M. James, Esq. [P.].
s. ♀ ad. sk.	Hakodadi, Japan, Nov. 2, 1865 (*H. Whitely*).	Tweeddale Coll.
t, u. ♂ ♀ ad. sk.	Hakodadi, Japan, Dec 12, 1865.	H. Whitely [C.].
v. Skull.	S. Germany.	Dr. Günther.

11. Gecinus guerini.

Chloropicos guerini, *Malh. Rev. et Mag. de Zool.* 1849, p. 539.

Gecinus guerini, *Bp. Consp. Gen. Av.* i. p. 127 (1850); *id. Consp. Volucr. Zygod.* p. 10 (1854); *Reichenb. Scans. Picinæ*, p. 349, no. 796, pl. dcxxii. figs. 4144, 4145 (1854); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 659, no. 958 (1856–58); *Swinh. Ibis*, 1863, p. 96; *id. P. Z. S.* 1863, pp. 268, 333; *Gray, List Picid. Brit. Mus.* p. 73 (1868); *id. Hand-l. B.* ii. p. 191, no. 8676 (1870); *Swinh. P. Z. S.* 1871, p. 392; *David & Oust. Ois. Chine*, p. 52 (1877); *H. H. Slater, Ibis*, 1882, p. 435; *Seebohm, op. cit.* 1884, p. 266; *Harg. op. cit.* 1888, p. 11.

Gecinus tancolo, *Gould, P. Z. S.* 1862, p. 283; *id. B. Asia*, vi. pl. 35 (1864); *David & Oust. Ois. Chine*, p. 53 (1877).

Gecinus tancola, *Swinh. Ibis*, 1863, p. 389; *Gray, List Picid. Brit. Mus.* p. 73 (1868); *id. Hand-l. B.* ii. p. 191, no. 8675 (1870); *Swinh. P. Z. S.* 1871, p. 392.

Chloropicus guerini, *Malh. Picidæ*, ii. p. 127, pl. lxxx. figs. 4, 5 (1862).

Picus guerini, *Sundev. Consp. Av. Picin.* p. 61 (1866); *David, Nouv. Arch. du Mus.* 1871, *Bull.* vii. p. 4.

Picus tancola, *Sundev. Consp. Av. Picin.* p. 61 (1866); *David, Nouv. Arch. du Mus.* 1871, *Bull.* vii. p. 4.

Adult male. Resembles *G. canus*, but differs in the occiput and nape being entirely black or in having the occiput sometimes broadly striped with black on a grey ground, and the nape pure black; the underparts are rather darker. The present species is intermediate between *G. canus* and *G. occipitalis*. Total length 10·5 inches, culmen 1·65, wing 5·6, tail 3·85, tarsus 1·15; toes (without claws) —outer anterior 0·78, outer posterior 0·72, inner anterior 0·58, inner posterior 0·35.

Adult female. Has no red on the top of the head, the crown being grey with black striations. Total length 10·2 inches, culmen 1·5, wing 5·3, tail 3·7, tarsus 1.

Hab. From Nankin, throughout Central and Southern China, and in Formosa.

a. ♂ ad. sk.	N. China.	Mr. Fortune [C.].
b. ♀ ad. sk.	Nankin, Sept. 1842 (*Capt. Ince*).	J. Gould, Esq.
c. ♂ ad. sk.	Shanghai (*J. R. Reeves*).	India Museum.

d, e. ♂ ♀ ad. sk.	Sha-foo-shan district, Chekiang Prov., May 1875 (*W. Pryer*).	Tweeddale Coll.
f, g. ♂ ♀ ad. sk.	Ningpo, China (*Capt. Ince*).	Gould Coll.
h, i. ♂ ad.; *k.* ♀ ad. sk.	Ningpo, China, May 1872 (*R. Swinhoe*).	Tweeddale Coll.
l. ♂ ad. sk.	Ningpo, China, April 1850 (*Capt. Ince*).	Mrs. Ince [P.].
m, n. ♂ ♀ ad. sk.	Fokien, China.	Gould Coll.
o. ♀ ad. sk.	Formosa (*R. Swinhoe*).	Tweeddale Coll.
p, q. ♂ ♀ ad. sk.	N. Formosa.	Consul Swinhoe [C.]
r. ♀ ad. sk.	Canton, China.	Tweeddale Coll.

12. Gecinus occipitalis.

Picus occipitalis, *Vig. P. Z. S.* 1830, p. 8; *Gould, Cent. B. Himal. M.* pl. xlvii. (1832); *McClell. P. Z. S.* 1839, p. 165; *Blyth, J. A. S. B.* x. p. 922 (1841); *id. op.* xii. p. 1002 (1843); *id. op. cit.* xiv. p. 191 (1845); *Sundev. Consp. Av. Picin.* p. 61 (1866).

Picus barbatus, *Gray, Hardw. Ill. Ind. Zool.* i. pl. xxxi. fig. 2, ♀ (1830–32).

Malacolophus occipitalis, *Swains. Classif. B.* ii. p. 308 (1837).

Brachylophus occipitalis, *Hodgs. Icon. ined. in Brit. Mus.* nos. 149, 150 (♂ ♀); *id. in Gray's Misc.* p. 85 (1844).

Gecinus occipitalis, *Gray, Cat. Mamm. &c. Nepal, pres. Hodgs.* p. 116 (1846); *id. Gen. B.* ii. p. 438 (1846); *Blyth, Cat. B. Mus. As. Soc.* p. 58, no. 263 (1849); *Bp. Consp. Gen. Av.* i. p. 127 (1850); *id. Consp. Volucr. Zygod.* p. 10 (1854); *Reichenb. Scans. Picinæ*, p. 349, no. 798, pl. dcxxi. figs. 4139, 4140 (1854); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 661, no. 963 (1856–58); *Jerd. B. Ind.* i. p. 287 (1862); *Tytler, Ibis*, 1868, p. 202; *Gray, List Picid. Brit. Mus.* p. 73 (1868); *Bulger, Ibis*, 1869, p. 156; *Godwin-Austen, J. A. S. B.* 1870, p. 267; *Gray, Hand-l. B.* ii. p. 191, no. 8674 (1870); *Cock & Marshall, Str. F.* 1873, p. 350; *Hume, op. cit.* 1874, p. 472; *id. & Oates, op. cit.* 1875, p. 70; *Blyth & Wald. B. Burm.* p. 76 (1875); *Godwin-Austen, J. A. S. B.* 1876, p. 70; *Hume, Str. F.* 1877, p. 26; *id. & Davison, op. cit.* 1878, pp. 137, 501; *Oates, op. cit.* 1879, p. 165; *Scully, tom. cit.* p. 248; *Bingh. op. cit.* 1880, p. 164; *Oates, op. cit.* x. p. 191 (1882); *Oates, B. Brit. Burm.* ii. p. 51 (1883); *Marshall, Ibis*, 1884, p. 410; *Harg. op. cit.* 1888, p. 6; *Hume, Str. F.* xi. p. 62 (1888).

Chloropicos occipitalis, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 351.

Chloropicus occipitalis, *Malh. Picidæ*, ii. p. 129, pl. lxxvii. figs. 4, 5 (1862).

Gecinus striolatus (pt.), *Anderson, Yunnan Exped.* i. p. 585 (1878)*.

Adult male. Back, scapulars, rump, and upper tail-coverts olive, the rump-feathers tipped with chrome-yellow; wing-coverts and outer webs of secondaries golden-olive, the remaining portion of the

* Dr. Anderson obtained two specimens which he named *G. striolatus*. One (a nestling) is in the British Museum, and in my opinion it has been wrongly identified; the second example is in the Calcutta Museum, and is in all probability correctly named (if an adult bird), as Dr. Anderson must have been well acquainted with the full-plumaged *G. striolatus*.

quills dusky black, the outer webs of the primaries spotted with white, more or less smoky; the inner webs of the quills (except on the apical portion of the primaries) spotted with pure white; shafts dark brown; tail black, the central pair of feathers spotted upon both webs with greyish, and margined at the base with olive; shafts black; nasal plumes black; base of forehead dark slaty grey; crown crimson, the outer edge, also the occiput and nape, black, the feathers having their bases and basal margin grey and more or less exposed, and having a striped character; face leaden grey, with a black spot in front of the eye, the malar region broadly striped with or almost entirely black; chin and throat buffy white; side of the neck and the whole of the under surface of the body and under tail-coverts uniform olive; under wing-coverts and axillaries white barred with black, the edge of the wing washed with yellow. Total length 12·5 inches, culmen 1·65, wing 5·55, tail 4·15, tarsus 1·2; toes (without claws)—outer anterior 0·8, outer posterior 0·75, inner anterior 0·67, inner posterior 0·4.

Young male. Has a central spot of orange-red upon the forehead: the face mouse-grey; the chin and throat with transverse dusky spots; the sides of the body, flanks, and thighs having dusky olive spots and transverse markings of dull yellowish white; the secondary quills with the faintest trace of dusky-green bars, and the central pair of tail-feathers more distinctly barred. Otherwise like the adult, but duller in colour.

Adult female. Has no red on the crown, this being black like the occiput and nape, the grey basal margins of the feathers showing, and giving a striped appearance to the top of the head. Total length 12·5 inches, culmen 1·45, wing 5·6, tail 3·8, tarsus 1·2.

Nestling (apparently female). Has all the tail-feathers barred, but very faintly; the flanks and thighs broadly barred with blackish. In other respects much resembling the young male described.

Hab. Cashmere, throughout the Himalayas, also in Yunnan, Cachar, Assam, south into the central portion of the province of Tenasserim, and in Siam, Cambodia (*Harmand*), and also in South Cochin China (*Pierre*).

a. ♂ ad. sk.	Cashmere.	E. M. Langworthy, Esq. [P.].
b. ♀ ad. sk.	Cashmere (*Dr. Bellew*).	India Museum.
c. ♀ ad. sk.	Murree.	Col. Way [P.].
d. ♀ ad. sk.	Kotekhaie, Feb. 20, 1871.	Hume Coll.
e. ♂ ad. sk.	Kotegurh.	Hume Coll.
f. ♀ ad. sk.	Fagoo, Simla, Aug. 17, 1868 (*A. O. H.*).	Hume Coll.
g, h. ♂ ad.; *i.* ♀ ad. sk.	Middle range of hills north of Masuri.	Hume Coll.
k. ♀ ad. sk.	Masuri.	Hume Coll.
l, m, n. ♂ ad. sk.	Naini Tal, Sept. 1866.	Hume Coll.
o. ♀ ad. sk.	Almorah, Oct. 29, 1866.	Hume Coll.
p, q. ♀ ad. sk.	Kaladoongi, Sept. 1866.	Hume Coll.
r, s. ♂ ♀ ad. sk.	Siwalik Range.	Hume Coll.

t. ♀ ad. sk.	Dehra.	Hume Coll.
u. ♂ ad. sk.	Kumaon (*Col. Strachey*).	India Museum.
v–*y*. ♂ ad.; *z*–*b'*. ♀ ad. sk.	Nepal.	Hodgson Coll.
c', *d'*. ♂ ♀ imm. sk.	Nepal (*B. H. Hodgson*).	India Museum.
e'. ♂ juv. sk.	Nepal valley, July 13, 1878 (*J. Scully*).	Hume Coll.
f'–*i'*. ♂ ad.; *k'*. Juv. sk.	Native Sikhim, March, June, July, Oct. (*L. Mandelli*).	Hume Coll.
l'–*s'*. ♂ ad. et juv.; *t'*–*x'*. ♀ ad. et juv. sk.	Sikhim, Jan., Feb., March, April, Aug., Oct. Nov. (*L. Mandelli*).	Hume Coll.
y'. ♀ ad. sk.	Darjeeling, Feb. 1873.	Hume Coll.
z', *a''*. ♂ ad. sk.	Buxa Doars, Jan. 1878 (*L. Mandelli*).	Hume Coll.
b''. ♂ ad. sk.	Assam (*McClelland*).	India Museum.
c''. ♂ ad. sk.	Assam.	Tweeddale Coll.
d''. ♀ ad. sk.	Sadhya, Assam, Feb. 1877 (*J. Cockburn*).	Hume Coll.
e'', *f''*. ♂ ad.; *g''*. ♀ ad. sk.	Sadhya, Assam, Feb., April (*J. Cockburn*).	Hume Coll.
h''. ♀ ad. sk.	Dollah, Assam, April 13, 1877 (*J. Cockburn*).	Hume Coll.
i'', *k''*. ♀ ad. sk.	Tippook, Assam, March 1877 (*J. Cockburn*).	Hume Coll.
l''–*r''*. ♂ ad. et imm.; *s''*, *t''*, *u''*. ♀ ad. sk.	Dibrughur, Jan., March, April, May, June, Sept., Dec. (*J. R. Cripps*).	Hume Coll.
v''. ♂ ad. sk.	Khasia hills (*Griffith*).	India Museum.
w''. ♂ ad. sk.	N. Khasia hills, March 1876 (*A. W. Chennell*).	Tweeddale Coll.
x''. ♂ ad. sk.	Cachar (*J. Inglis*).	Hume Coll.
y'', *z''*. ♂ ad. sk.	Tipperah hills, Nov. 20, 1868.	Hume Coll.
a^3. ♀ ad. sk.	Thayetmyo, Nov. 25, 1872 (*E. W. Oates*).	Hume Coll.
b^3, *c*^{3}. ♂ ♀ ad. sk.	Eastern slopes of Pegu hills, April 18, 1873 (*E. W. Oates*).	Hume Coll.
d^3. ♀ imm. sk.	Pegu, Dec. 24, 1873 (*R. G. W. R.*).	Tweeddale Coll.
e^3. ♂ imm. sk.	Yaytho, Burmah, June 8, 1873 (*R. G. W. R.*).	Tweeddale Coll.
f^3. ♂ imm. sk.	H-touk-y-an, Burmah, Dec. 22, 1873 (*R. G. W. R.*).	Tweeddale Coll.
g^3. ♀ ad. sk.	Shuay-g-yeen, Salween Dist., Jan. 3, 1874 (*R. G. W. R.*).	Tweeddale Coll.
h^3. ♂ ad.; *i*^{3}. ♀ imm. sk.	Tonghoo, Burmah, Oct. 1874.	Hume Coll.
j^3–*o*^{3}. ♂ ad. et juv.; *p*^{3}, *q*^{3}. ♀ ad. sk.	Tonghoo, Burmah, March, April, Oct., Nov. (*R. G. W. R.*).	Tweeddale Coll.
r^3. Pull. sk.	Momien, Yunnan, June 17, 1868.	Dr. J. Anderson, [C.].
s^3, *t*^{3}. ♂ ♀ ad. sk.	Burmah (*H. W. Feilden*).	Tweeddale Coll.
u^3, *v*^{3}. ♂ ♀ ad. sk.	Dargwin, Tenasserim, Jan. 1874 (*W. Davison*).	Hume Coll.
w^3, *x*^{3}. ♂ ♀ ad.; *y*^{3}, *z*^{3}. ♂ ♀ imm. sk.	Pahpoon, Jan. 1874 (*W. Davison*).	Hume Coll.
a^4. ♂ juv. sk.	Kaukaryit, July (*J. Darling*).	Hume Coll.

b^1. ♀ ad. sk.	Sinzaway, March 2, 1877 (*C. T. Bingham*).	Hume Coll.
c^1, d^1. ♂ ♀ ad. sk.	Myawadee, Jan. 19, 1877 (*W. Davison*).	Hume Coll.
e^1. ♂ ad. sk.	Kanee, March 7, 1877 (*W. Davison*).	Hume Coll.
f^1. ♂ ad. sk.	Pabyouk, March 13, 1874 (*W. Davison*).	Hume Coll.
g^1. ♀ ad. sk.	Meeta Myo, April 18, 1874 (*W. Davison*).	Hume Coll.
h^1. ♀ ad. sk.	Tavoy, March 16, 1878 (*W. Davison*).	Hume Coll.
i^1. ♂ ad. sk.	Mooleyit, Jan. 26, 1877 (*W. Davison*).	Hume Coll.
k^1. ♂ ad. sk.	Moulmein, Dec. 14, 1878 (*W. Davison*).	Hume Coll.
l^1, m^1. ♂ ♀ ad. sk.	Thoungyeen valley, March (*C. T. Bingham*).	Hume Coll.
n^1. ♂ ad. sk.	Thoungyah, Sept. 17, 1878 (*J. Darling*).	Hume Coll.
o^1. ♂ juv. sk.	Pitchaburree, Siam.	E. Pierre [P.].
p^1, q^1. ♂ ♀ ad. sk.	Meklong, Siam.	H. C. V. Hunter, Esq. [P.].
r^1, s^1, t^1. Skeletons (one skull missing).	India.	
u^1. Bones of trunk.		

13. Gecinus chlorolophus.

Picus chlorolophus, *Vieill. N. Dict. Hist. Nat.* xxvi. p. 78 (1818); *Bonn. & Vieill. Enc. Méth.* p. 1309 (1823); *Sundev. Consp. Av. Picin.* p. 58 (1866).

Yellow-necked Woodpecker, *Lath. Hist. B.* iii. p. 365 (1822).

Picus chlorolophos, *Wagl. Syst. Av.* Picus, sp. 69 (1827).

Picus chloropus, *Drap. Dict. Class. Hist. Nat.* xiii. p. 500 (1828).

Picus nepalensis, *Gray, Hardw. Ill. Ind. Zool.* i. pl. xxxi. fig. 1 (1830–32); *McClell. P. Z. S.* 1839, p. 165; *Blyth, J. A. S. B.* xii. p. 1003 (1843); *id. op. cit.* xiv. p. 191 (1845).

Dryotomus sericeocollis, *Hodgs. Icon. ined. in Brit. Mus.* nos. 145, 146 (♂ ♀).

Brachylophus sericollis, *Hodgs. in Gray's Zool. Misc.* 1844, p. 85.

Gecinus nipalensis, *Gray, Gen. B.* ii. p. 438 (1846).

Gecinus xanthoderus (*non Malh.*), *Gray, Cat. Mamm. &c. Nepal, pres. Hodgs.* p. 116 (1846).

Chloropicos chlorolophus, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 350.

Gecinus chloropus, *Blyth, Cat. B. Mus. As. Soc.* p. 58, no. 266 (1849); *Tytler, Ann. Nat. Hist.* xiii. p. 367 (1854); *Blyth, J. A. S. B.* 1863, p. 75.

Chrysophlegma chlorolophus, *Bp. Consp. Gen. Av.* i. p. 128 (1850); *id. Consp. Volucr. Zygod.* p. 10 (1854); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 662, no. 966 (1856–58); *Jerd. B. Ind.* i. p. 289 (1862); *Gray, Cat. Mamm. &c. Nepal, pres. Hodgs.* 2nd ed. p. 63 (1863); *Godwin-Austen, J. A. S. B.* 1870, p. 97; *Hume, Str. F.* 1874, p. 472; *Blyth & Wald. B. Burm.* p. 76 (1875); *Hume &*

Oates, Str. F. 1875, p. 71; *Godwin-Austen, J. A. S. B.* 1876, p. 70; *Inglis, Str. F.* 1877, p. 26; *Hume & Davison, op. cit.* vi. p. 138 (1878); *Ball, op. cit.* vii. p. 206 (1878); *Scully, op. cit.* 1879, pp. 249, 365; *Bingham, op. cit.* 1880, p. 104; *Oates, op. cit.* 1882, p. 191; *Oates, B. Brit. Burm.* ii. p. 45 (1883); *Hume, Str. F.* xi. p. 62 (1888).

Chrysophlegma chlorolophum, *Reichenb. Scans. Picinæ*, p. 357, no. 825, pl. dcxxvii. figs. 4173–74, ♂ ♀ ad. (1854).

Chloropicus chlorolophus, *Malh. Picidæ*, ii. p. 108, pl. lxxiv. figs. 1, 2, 3 (1862).

Gecinus chlorolophus, *Gray, List Picid. Brit. Mus.* p. 74 (1868); *id. Hand-l. B.* ii. p. 191, no. 8680 (1870); *Sharpe, P. Z. S.* 1887, p. 443; *Harg. Ibis*, 1888, p. 184.

Adult male. Entire upper parts and wing-coverts yellowish olive; quills brown, the inner webs spotted with white, the outer webs of the primaries at the base and those of the outer secondaries along their whole length red, more or less margined with green; the inner secondaries entirely green on the outer web and apex of the inner web; the outer webs of the outer primaries with a few white spots; shafts brown; tail and the shafts black; nasal plumes and a line in front of the eye black; forehead, outer edge of the crown, and the occiput crimson, the top of the head olive; nuchal crest golden yellow; sides of the face and neck deep olive, the lores and a stripe running under the ear-coverts, also a slight superciliary stripe, white; malar stripe crimson barred with dusky olive, the feathers with white bases; from the chin to the breast inclusive deep olive, the bases of the feathers of the chin and throat showing white; remainder of underparts and the under tail-coverts yellowish white, faintly barred with dusky olive; under wing-coverts and axillaries yellowish white barred with olive: "bill greenish yellow horny, culmen and tip dark plumbeous; irides carmine-red" (*Scully*). Total length 10 inches, culmen 1·27, wing 5·25, tail 3·75, tarsus 0·9; toes (without claws)—outer anterior 0·73, outer posterior 0·65, inner anterior 0·53, inner posterior 0·35.

Young male. Resembles the adult male, but is rather duller in colour, the chest and breast being dusky brown with scarcely any green tinge; the abdomen, flanks, and thighs whiter and with more distinct dusky bars; the spots on the outer webs of the primaries are, as a rule, larger.

Adult female. Differs from the adult male in the absence of red on the forehead and edge of the crown, and also in wanting the red malar stripe. Total length 10·5 inches, culmen 1·15, wing 5·05, tail 3·55, tarsus 0·9.

The white spotting on the outer webs of the primaries is inconstant, occurring or being absent in apparently equally adult birds from the same locality. In Burmese examples the spots are generally wanting. The Perak bird is extremely dark, and but for the distribution of the red on the head resembles *G. chlorigaster*.

Hab. Nepal and the South-east Himalayas, into Bengal and Orissa; eastward to Cachar, Manipur, and Assam; southward through the Burmese Empire and the Malayan Peninsula to Perak.

Has also been obtained in Cochin China (*Harmand*), and will probably be found in the intervening countries.

a. ♀ ad. sk.	Chumba, Feb. 1882 (*C. H. T. Marshall*).	Hume Coll.
b. ♂ imm. sk.	Fagoo, Simla, Sept. 14, 1868.	Hume Coll.
c, *d*. ♀ ad.; *e*. ♂ imm. sk.	Masuri.	Hume Coll.
f, *g*. ♂ ♀ ad. sk.	Dehra Dhoon, Jan. 20, 1871.	Hume Coll.
h. ♀ ad. sk.	Dehra Dhoon.	Tweeddale Coll.
i. ♀ ad. sk.	Dehra Dhoon.	Gould Coll.
k. ♂ ad. sk.	Kalsi, Dehra Dhoon, Jan. 31, 1868.	Hume Coll.
l, *m*. ♂ ♀ ad. sk.	Kalidoongi. Sept. 29, 1866.	Hume Coll.
n, *o*. ♂ ♀ imm.; *p*. ♂ ad. sk.	Naini Tal (*S. Pinwill*).	Tweeddale Coll.
q, *r*. ♀ ad. sk.	Naini Tal.	Capt. Stackhouse Pinwill [P.].
s. ♂ ad. sk.	Almorah, Oct. 29, 1866.	Hume Coll.
t. ♂ ad. sk.	Sanga, Nepal valley, Sept. 16, 1877 (*J. Scully*).	Hume Coll.
u. ♂ ad. sk.	Nepal valley, Dec. 19, 1877 (*J. Scully*).	Hume Coll.
v, *w*. ♂ ♀ ad. sk.	Nepal.	Hodgson Coll. (Types of *D. sericeocollis*.)
x, *y*, *z*. ♂ ad.; *a'*, *b'*. ♀ ad.; *c'*. ♂ imm. sk.	Nepal.	Hodgson Coll.
d'. Ad.; *e'*. ♀ juv. sk.	Nepal (*B. H. Hodgson*).	India Museum.
f'–*n'*. ♂ ad.; *o'*–*t'*. ♀ ad. sk.	Sikhim, Feb., March, April, June, Aug., Nov. (*L. Mandelli*).	Hume Coll.
u'. ♀ ad. sk.	Darjeeling.	Hume Coll.
v'. Ad. sk.	Bootan (*Pemberton*).	India Museum.
w', *x'*. Ad. sk.	Assam (*McClelland*).	India Museum.
y', *z'*, *a''*. ♂ ad. et imm.; *b''*, *c''*. ♀ ad. sk.	Assam (*A. W. Chennell*).	Tweeddale Coll.
d''. ♂ ad. sk.	Assam.	Gould Coll.
e''. ♂ ad.; *f''*, *g''*. ♀ ad. sk.	N. Khasia hills, Jan., Feb., 1876 (*A. W. Chennell*).	Tweeddale Coll.
h'', *i''*. ♂ ad.; *k''*. ♀ ad. sk.	Sadhyia, Assam, April, June (*J. Cockburn*).	Hume Coll.
l''. ♀ ad. sk.	Dollah, Assam, April 19, 1877 (*J. Cockburn*).	Hume Coll.
m''–*r''*. ♂ ad. et imm.; *s''*, *t''*, *u''*. ♀ ad. et imm. sk.	Dibrughur, March, May, July, Aug., Dec. (*J. R. Cripps*).	Hume Coll.
v''. ♀ imm. sk.	Cachar (*J. Inglis*).	Hume Coll.
w'', *x''*. ♂ ♀ ad. sk.	Manipur, April 1881 (*A. O. H.*).	Hume Coll.
y''. ♀ ad. sk.	Tipperah, Jan. 1871.	Hume Coll.
z'', *a*^{3}. ♂ ad.; *b*^{3}. ♀ ad. sk.	Tonghoo, April (*R. G. W. R.*).	Tweeddale Coll.

c^3. ♀ ad. sk.	Tonghoo, Oct. 1874 (*E. W. Oates*).	Hume Coll.
d^3. ♂ ad. sk.	Karennee, March 25, 1874 (*R. G. W. R.*).	Tweeddale Coll.
e^3. ♂ ad. sk.	Thayetmyo, April 1873 (*E. W. Oates*).	Hume Coll.
f^3. ♀ ad. sk.	Salween district, Feb. 12, 1874 (*W. Davison*).	Hume Coll.
g^3. ♀ ad. sk.	Kollidoo, Nov. 18, 1874 (*W. Davison*).	Hume Coll.
h^3. ♂ ad. sk.	Pahpoon, Dec. 24, 1873 (*W. Davison*).	Hume Coll.
i^3. ♂ ad. sk.	Thatone, Jan. 2, 1877 (*W. Davison*).	Hume Coll.
k^3. ♂ ad. sk.	Myawadee, Jan. 18, 1877 (*W. Davison*).	Hume Coll.
l^3, m^3. ♂ ad. sk.	Kaukaryit, Jan. 1877 (*W. Davison*).	Hume Coll.
n^3. ♂ ad. sk.	Kaukaryit, Sept. 5, 1878 (*J. Darling*).	Hume Coll.
o^3, p^3. ♂ ad; q^3. ♀ ad. sk.	Mooleyit, Feb. 1877 (*W. Davison*).	Hume Coll.
r^3, s^3. ♂ ♀ ad. sk.	Amherst, Dec. 18, 1876 (*W. Davison*).	Hume Coll.
t^3. ♂ ad. sk.	Mopapoo district, Thoungyeen valley, Jan. 23, 1880 (*C. T. Bingham*).	Hume Coll.
u^3. ♀ ad. sk.	Thoungyah, Sept. 24, 1878 (*J. Darling*).	Hume Coll.
v^3. ♂ ad. sk.	Mountains of Perak.	L. Wray, Esq. [P.].
w^3. Skeleton; x^3, y^3. Bones of trunk.	Nepal.	Hodgson Coll.

14. Gecinus chlorogaster.

Picus mentalis (*non Temm.*), *Jerd. Madr. Journ.* 1840, p. 214.
Picus chlorigaster, *Jerd. Madr. Journ.* 1844, p. 138.
Chloropicus xanthoderus, *Malh. Rev. Zool.* 1845, p. 402; *id. Picidæ*, ii. p. 114, pl. lxxv. figs. 1, 2 (1862).
Gecinus chlorigaster, *Blyth, J. A. S. B.* 1846, p. 16; *Harg. Ibis*, 1888, p. 180.
Gecinus chlorophanes, *Blyth, Cat. B. Mus. As. Soc.* p. 59, no. 267 (1849).
Gecinus chlorophaus, *Gray, Gen. B.* iii. App. p. 21 (1849).
Chrysophlegma chlorolophus (*non Vieill.*), *Bp. Consp. Gen. Av.* i. p. 128 (1850).
Chrysophlegma xanthoderus, *Bp. Consp. Volucr. Zygod.* p. 10 (1854); *Legge, B. Ceylon*, p. 197 (1880).
Venilia chlorophanes, *Reichenb. Scans. Picinæ*, p. 359, no. 829, pl. dcxxix. figs. 4182, 83, females (1854).
Chrysophlegma chlorophanes, *Jerd. B. Ind.* i. p. 290 (1862); *Legge, Ibis*, 1874, p. 15; *id. op. cit.* 1875, p. 283; *Hume, Str. F.* 1876, p. 390; *Fairbank, op. cit.* 1877, p. 396.
Picus xanthoderus, *Sundev. Consp. Av. Picin.* p. 58 (1866).

Gecinus xanthoderus, *Gray, List Picid. Brit. Mus.* p. 75 (1868); *id. Hand-l. B.* ii. p. 191, no. 8681 (1870).

Chrysophlegma chlorigaster, *Hume, Str. F.* vii. p. 517 (1878); *Butler, Cat. B. S. Bomb. Presid.* p. 24 (1880); *id. Str. F.* 1880, p. 386; *Davison, op. cit.* 1882, p. 298; *id. op. cit.* x. p. 355 (1883); *Hume, op. cit.* x. p. 457 (1887).

Adult male. Above uniform yellowish olive; wing-coverts golden olive, dull red near the shaft; quills blackish brown, the inner webs spotted with white, the outer webs of the primaries at their base and entire outer webs of the secondaries dull red, more or less margined with green, the primaries having a few small spots of greenish white; shafts brown; tail brownish black, the shafts black; forehead, crown, and occipital crest, also malar stripe, crimson; nuchal crest yellow; sides of face and neck dull olive, a narrow white stripe from the gape running under the ear-coverts; chin and throat pale greenish buff; the whole of the under surface of the body deep olive or brownish olive, all below the chest being barred and spotted with whitish; under tail-coverts dull olive, tipped and barred with dull white; under wing-coverts and axillaries dusky brown, spotted and barred with yellowish or white: "iris sombre red or brownish red; bill blackish, with the sides of the lower mandible and margin of the upper, next the gape, yellow; legs and feet olive-greenish or dusky sap-green" (*W. V. Legge*). Total length 9·5 inches, culmen 1·1, wing 4·65, tail 3·25, tarsus 0·85; toes (without claws)—outer anterior 0·68, outer posterior 0·63, inner anterior 0·55, inner posterior 0·28.

Young male. Resembles the adult male, but is more dusky on the face and neck, and the underparts are spotted, even on the flanks, and not barred as in the older birds.

Adult female. Differs from the adult male in the absence of crimson on the forehead and crown, these parts being blackish olive, also in being without the crimson cheek-patch. Total length 9 inches, culmen 0·95, wing 4·65, tail 3·15, tarsus 0·85.

Hab. Southern portion of India, as high as Khandeish on the west, and in Ceylon.

a. ♀ ad. st.	India.	Purchased.
b. ♀ imm.; *c.* ♀ juv. sk.	Khandeish, March 1880 (*J. Davidson*).	Hume Coll.
d. ♂ imm. sk.	Khandeish.	Tweeddale Coll.
e. ♂ ad. sk.	Koombarwara, N. Kanara, May 4, 1877 (*H. C. James*).	Hume Coll.
f, g. ♂ ad.; *h, i, k.* ♀ ad.; *l.* ♀ imm. sk.	Malabar.	Tweeddale Coll
m. ♂ ad. sk.	Cannanore, Aug. 9, 1882 (*R. G. W. R.*).	Tweeddale Coll
n. ♂ ad. sk.	Wynaad, Aug. 10, 1877.	Hume Coll.
o. ♂ ad. sk.	Goodalore, Wynaad, Mar. 28, 1881 (*W. Davison*).	Hume Coll.
p, q. ♂ ♀ ad. sk.	Calicut.	Hume Coll.
r. ♂ imm.; *s.* ♀ ad. sk.	Nilghiris, March, July.	Hume Coll.

t. ♀ ad. sk.	Kullar, Nilghiris, Sept. 9, 1867.	Hume Coll.
u, *v*. ♂ ad. sk.	Kullar, Nilghiris, Sept. (*R. G. W. R.*).	Tweeddale Coll.
w. ♂ ad. sk.	Coonoor Ghat, April 1878 (*R. G. W. R.*).	Tweeddale Coll.
x. ♂ ad. ; *y*. ♀ imm. sk.	Madras.	Rev. H. H. Baber [P.].
z. ♂ ad. sk.	Madras (*T. C. Jerdon*).	Gould Coll. (Type of species.)
a', *b'*. ♂ ad. ; *c'*. ♀ imm. sk.	Anjango, Travancore, Dec. 1872.	Hume Coll.
d', *e'*. ♀ ad. sk.	Mynall, Travancore, Mar. 13, 1875 (*F. Bourdillon*).	Hume Coll.
f'. Ad. sk.	Travancore.	F. Bourdillon, Esq. [C.].
g'. ♀ ad. sk.	Travancore.	Gould Coll.
h', *i'*. ♂ ad. ; *k'*. ♀ ad. sk.	Pusiwella, Ceylon, Dec. 1865 (*S. Chapman*).	Tweeddale Coll.
l'. ♀ ad. sk.	Kandy Road, Ceylon, July 18, 1866 (*S. Chapman*).	Tweeddale Coll.
m', *n'*, *o'*. ♂ ad. ; *p'*, *q'*, *r'*. ♀ ad. sk.	Ceylon (*H. Nevill*).	Tweeddale Coll.
s'. ♂ ad. sk.	Ceylon.	T. Thwaites, Esq. [C.].

15. Gecinus puniceus.

Picus puniceus, *Horsf. Trans. Linn. Soc.* xiii. pt. 1, p. 176 (1821); *Raffl. tom. cit.* pt. 2, p. 289 (1822); *Lath. Hist. B.* iii. p. 362 (1822); *Temm. Pl. Col.* ccccxxiii. (1827); *Wagl.* (pt.) *Syst. Av.* Picus, sp. 96 (1827); *id. Isis*, 1829, p. 518; *Vig. Mem. Raffl.* p. 668 (1830); *Less. Traité*, i. p. 222 (1831); *Sundev. Consp. Av. Picin.* p. 58 (1866).

Picus gularis, *Wagl. Syst. Av. Add.* Picus, sp. no. 6 (*nec* no. 89), ♀ (1827).

Brachylophus puniceus, *Strickl. P. Z. S.* 1841, p. 31; *Bp. Consp. Volucr. Zygod.* p. 10 (1854).

Gecinus puniceus, *Gray, Gen. B.* ii. p. 439 (1846); *Blyth, Cat. B. Mus. As. Soc.* p. 59, no. 270 (1849); *Wall. Ann. & Mag. Nat. Hist.* xv. p. 96 (1855); *Gray, List Picid. Brit. Mus.* p. 77 (1868); *id. Hand-l. B.* ii. p. 192, no. 8687 (1870); *Harg. Ibis*, 1888, p. 176.

Venilia puniceus, *Bp. Consp. Gen. Av.* i. p. 128 (1850).

Venilia punicea, *Reichenb. Scans. Picinæ*, p. 358, no. 876, pl. dcxxviii. figs. 4176–77, ♂ ♀ ad. (1854); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 664, no. 968 (1856–58); *Moore, P. Z. S.* 1859, p. 456.

Chloropicus puniceus, *Malh. Picidæ*, ii. p. 110, pl. lxxiv. figs. 5, 6, ♂ ♀ (1862).

Chrysophlegma puniceus, *Jerd. B. Ind.* i. p. 291 (1862); *Blyth & Wald. B. Burm.* p. 77 (1875); *Oates, B. Brit. Burm.* ii. p. 44 (1883).

Callolophus puniceus, *Salvad. Ucc. Born.* p. 49 (1874); *Sharpe, P. Z. S.* 1875, p. 103; *id. Ibis*, 1876, p. 36; *Hume & Davison, Str. F.* vi. p. 139 (1878); *Hume, op. cit.* 1879, p. 88; *Sharpe, Ibis*, 1879, p. 242; *id. P. Z. S.* 1881, p. 792; *Guillemard, op. cit.* 1885, p. 405; *Büttikofer, Notes Leyd. Mus.* ix. p. 23 (1887).

Chrysophlegma puniceum, *Salvad. Ann. Mus. Civ. Stor. Nat. Genova*, ser. 2, iv. pp. 519, 529 (1887).

Adult male. Above yellowish olive, the feathers of the rump broadly tipped with lemon-yellow; wing-coverts, outer webs of primaries at the base, and the entire outer webs of the secondaries carmine-red, the remaining part of the quills blackish brown, the inner webs spotted with white on the margin, the spots on the primaries confined to the base and sometimes confluent; shafts black; tail and shafts black; nasal plumes black; the whole of the top of the head, occipital crest, and malar stripe crimson; nuchal crest yellow; a black stripe in front of the eye; chin and throat greenish buff; face, sides of the neck, the fore neck, and the whole of the under surface of the body, and under tail-coverts green; the sides of the body, flanks, and thighs spotted more or less transversely with yellow or yellowish white, with partially concealed dusky black and white bars; the under tail-coverts slightly spotted with white; under wing-coverts and axillaries dusky brown, spotted and barred with yellowish white: "iris crimson; orbital skin greenish grey; lower mandible and edges of upper mandible at gape dark greenish yellow; upper mandible black; legs and feet pale green, claws greenish horny" (*W. Davison*). Total length 10·75 inches, culmen 1·35, wing 5·1, tail 3·5, tarsus 0·87; toes (without claws)—outer anterior 0·7, outer posterior 0·62, inner anterior 0·55, inner posterior 0·27.

Adult female. Resembles the male, but wants the red malar patch. Total length 11 inches, culmen 1·15, wing 5·25, tail 3·65, tarsus 0·9.

Young. The sexes differ as in the adult; the colour of the plumage is duller, and the underparts are less green, the chin and throat being of a drab-brown and the breast more or less crossed by pale brown and dusky lines. As a rule there is more spotting on the underparts, but this is not constant.

In examples of this species from Malacca, Sumatra, and Borneo the orbital region is less dusky and the sides of the face and neck are of a paler green.

Hab. Southern Tenasserim and the Malayan Peninsula, Sumatra and also the Island of Nias on the west, Java, Borneo.

a. ♀ imm. sk.	Java (*Horsfield*).	India Museum. (Type of species.)
b. ♀ ad. sk.	E. Java (*A. R. Wallace*).	Tweeddale Coll.
c, d. ♂ ♀ ad. sk.	E. Java.	Wallace Coll.
e. ♀ ad. sk.	Java (*Mus. Lugd.*).	Salvin-Godman Coll.
f. ♂ ad.; *g.* Juv. sk.	Java.	Gould Coll.
h, i. ♂ ad.; *k.* ♀ ad. sk.	Borneo.	Rajah Brooke [P.].
l. ♂ juv. sk.	Lawas River, N.W. Borneo.	H. Veitch, Esq. [P.].
m. ♂ imm. sk.	Labuan.	R. B. Sharpe, Esq. [P.].
n, o. ♂ ♀ ad.; *p.* Juv. sk.	Lampong, Sumatra (*E. C. Buxton*).	Tweeddale Coll.
q, r. ♂ ad.; *s.* ♀ ad. sk.	Sumatra (*C. Bock*).	Tweeddale Coll.

t. ♂ ad. sk.	Sumatra (*A. R. Wallace*).	Tweeddale Coll.
u. ♂ ad. sk.	Sumatra.	Wallace Coll.
v. ♂ ad. sk.	Singapore Island, Feb. 8, 1879 (*W. Davison*).	Hume Coll.
w. ♀ ad. sk.	Singapore (*W. Davison*).	Hume Coll.
x–*a'*. ♂ ad.; *b'*. ♀ ad. sk.	Gunnong Pulai, Johore, Mar., July (*W. Davison*).	Hume Coll.
c'. ♂ ad. sk.	Johore, Aug. 21, 1875 (*W. Davison*).	Hume Coll.
d', ♂ imm.; *e'*. ♀ juv. sk.	Malacca (*Dr. Cantor*).	India Museum.
f'. ♀ ad. sk.	Malacca (*A. R. Wallace*).	Gould Coll.
g'. ♂ ad. sk.	Malacca.	Wallace Coll.
h'. ♂ ad. sk.	Malacca (*Dr. Maingay*).	Tweeddale Coll.
i', *k'*. ♂ ♀ ad. sk.	Mt. Ophir, Malacca, Aug. 14, 1873 (*R. G. W. R.*).	Tweeddale Coll.
l', *m'*, *n'*. ♂ ad.; *o'*–*r'*. ♀ ad. sk.	Malacca, Jan., July, 1877 (*W. Darison*).	Hume Coll.
s'. ♂ ad.; *t'*. ♂ imm. sk.	Nealys, Malacca, Oct. 1875 (*W. Davison*).	Hume Coll.
u'. ♂ ad. sk.	Kuroo, Malacca, Nov. 1, 1875 (*W. Davison*).	Hume Coll.
v', *w'*. ♂ ad.; *x'*. ♀ ad. sk.	Pulo Sebau, Malacca, Oct., Nov., Dec. (*W. Davison*).	Hume Coll.
y'–*b''*. ♂ ad. et imm.; *c''*, *d'*. ♀ imm. sk.	Klang, Salangore, Feb., July, Nov. (*W. Davison*).	Hume Coll.
e''. ♂ ad. sk.	Ulu Langhat, Salangore, Apr. 6, 1879 (*W. Davison*).	Hume Coll.
f''. ♀ ad. sk.	Mts. of Perak.	L. Wray, Esq. [P.].
g'', *h''*. ♂ ♀ ad. sk.	Malewoon, Tenasserim, Apr. 1877 (*W. Davison*).	Hume Coll.
i''–*q''*. ♂ ad. et imm.; *r''*, *s''*, *t''*. ♀ ad. sk.	Bankasoon, Feb., April, May, June (*W. Davison*).	Hume Coll.
u''. ♀ ad. sk.	Laynah, May 18, 1875 (*W. Davison*).	Hume Coll.
v''. ♀ ad. sk.	Bopyin, Mergui distr., May 16, 1875 (*W. Davison*).	Hume Coll.
w'', *x''*. ♂ ad. sk.	Tavoy, April 1878 (*J. Darling*).	Hume Coll.
y''. Skeleton.	Java.	Purchased.

16. Gecinus erythropygius.

Gecinus erythropygius, *Elliot, N. Arch. du Mus., Bull.* i. p. 76, pl. iii. (1865); *Tirant, Ois. Basse-Cochinchine*, p. 89 (1879); *Harg. Ibis*, 1888, p. 189.

Adult male. Back, scapulars, wing-coverts, and tail-coverts yellowish olive, the tail-coverts more or less tinged with red; rump brilliant scarlet; quills black, the outer webs of the secondaries broadly margined with or entirely yellowish olive; the inner webs of all the quills and the outer webs of the primaries spotted with white, the spots being very large and sometimes confluent on the inner webs, the outer webs of the secondaries having at most indistinct

marginal lines of white; shafts black; tail black, the outer web of the large outer feather with marginal spots of buffy white at the base, and the inner webs of the two feathers on either side of the central pair having at their base spots of pure white; shafts black; nasal plumes, face, the top of the head, occiput, and nape deep blue-black, with a quadrate spot of red in the centre of the crown; hind neck greenish yellow; side of the neck, chin, throat, fore neck, and chest yellow, slightly greenish on the chest; below the chest dull white, with faint dusky squamate markings; under tail-coverts also dull white, but having broader and blacker squamate markings; under wing-coverts white, crossed by irregular and narrow dusky bars, the edge of the wing yellowish, with blackish squamate markings; axillaries yellowish white; bill white. Total length 12·5 inches, culmen 1·58, wing 6·35, tail 4·5, tarsus 1·23; toes (without claws)—outer anterior 0·9, outer posterior 0·85, inner anterior 0·62, inner posterior 0·44.

Adult female. Differs from the adult male in wanting the red on the crown. Total length 11·5 inches, culmen 1·35, wing 6·25, tail 4·3, tarsus 1·15.

Young female. Resembles the adult female in the distribution of the colours, but they are less vivid, the red of the rump being more of an orange-scarlet, and the head wanting the intense blue-black shade possessed by the older birds.

Hab. Cochin China and Laos.

17. Gecinus nigrigenis.

Gecinus erythropygius (*non Elliot*), *Wardl. Ramsay, P. Z. S.* 1874, p. 212, pl. xxxv. (♂ ♀); *Wald. Ibis*, 1875, pp. 148, 463; *Wardl. Rams. Tweedd. Mem.* p. 290 (1881); *Oates, Str. F.* x. p. 191 (1882); *id. B. Brit. Burm.* ii. p. 52 (1883); *Harg. Ibis*, 1888, p. 189.

Gecinus nigrigenis, *Hume, Proc. A. S. B.* 1874, p. 106; *id. Str. F.* 1874, pp. 444, 471; *id. & Davison, op. cit.* vi. p. 136 (1878); *Bingham, op. cit.* 1880, p. 163.

Picus nigrogenis, *Gieb. Thes. Orn.* iii. p. 170 (1876).

Adult male. Resembles *G. erythropygius*, from Cochin China, but may be easily distinguished by its black bill; the dimensions are also less, and there is a greater amount of red upon the crown; but as I have only been able to compare one male example of *G. erythropygius* with the present species, the small amount of red on the crown possessed by the former may not be a constant character. Occasionally specimens of *G. nigrigenis* are found possessing a white or yellowish stripe behind the eye *. This I have never met with in *G. erythropygius*; but the number examined has

* The variability as to presence or absence of this stripe in adult birds of either sex is a remarkable feature and does not exist in any other known Woodpecker. All other species of *Picidæ* either do or do not possess a facial stripe as a constant character.

been small, and it may exist in individual examples. "Legs and feet dirty brownish or plumbeous green; bill dark horny brown or blackish, yellowish at base of lower mandible; irides pale to bright gamboge-yellow" (*W. Davison*). Total length 12 inches, culmen 1·4, wing 6·15, tail 4·5, tarsus 1·15; toes (without claws)—outer anterior 0·8, outer posterior 0·75, inner anterior 0·65, inner posterior 0·45.

Young male. Resembles the adult of the same sex, but is less brilliant in colour.

Adult female. Differs from the adult male in wanting the red on the crown, the entire head being velvety black. Total length 12 inches, culmen 1·4, wing 6·35, tail 4·7, tarsus 1·15.

Obs. Occasionally, but rarely, a specimen occurs in which the under mandible is slightly yellow; but this is very strongly pronounced in an example from Mecklong, Siam, the under mandible being almost entirely yellow, and showing an approach to *G. erythropygius*.

Hab. Northern and Eastern Pegu, North Tenasserim and Siam.

a. ♀ ad. sk.	Karen Hills, 600 feet, Jan. 1875 (*R. G. W. R.*).	Tweeddale Coll.
b. ♀ ad. sk.	Foot of Karen Hills, Jan. 1875 (*R. G. W. R.*)	Tweeddale Coll.
c, d. ♂ ♀ ad. sk.	Tonghoo, Feb. 25, 1874 (*R. G. W. R.*).	Tweeddale Coll. (Types of *G. erythropygius*, W. R.)
e–i. ♂ ad. et imm.; *k*. ♀ ad. sk.	Tonghoo, July, Oct., Nov. (*R. G. W. R.*).	Tweeddale Coll.
l, m. ♂ ad.; *n, o, p*. ♀ ad. sk.	Kollidoo, Feb., Nov. (*W. Davison*).	Hume Coll.
q. ♂ ad. sk.	Darguin, Jan. 10, 1874 (*W. Davison*).	Hume Coll.
r. ♀ ad. sk.	Makana, Jan. 17, 1877 (*W. Davison*).	Hume Coll.
s. ♂ ad. sk.	Thoungyeen River, Dec. (*C. T. Bingham*).	Hume Coll.
t, u, v. ♂ ad.; *w–z*. ♀ ad. sk.	Myawadee, Jan. 1877 (*W. Davison*).	Hume Coll.
a'–d'. ♂ ad. sk.	Endingnone, Jan. 1877 (*W. Davison*).	Hume Coll.
e', f'. ♂ ♀ ad. sk.	Lathorgee, Jan. 1877 (*W. Davison*).	Hume Coll.
g'. ♂ ad. sk.	Epoo, Myawadee, Jan. 25, 1877 (*W. Davison*).	Hume Coll.
h', i'. ♂ ♀ ad. sk.	Mooleyit, Jan. 26, 1877 (*W. Davison*).	Hume Coll.
k', l'. ♂ ad.; *m'*. ♀ ad. sk.	Tavoy, Feb. 1879 (*W. Davison*).	Hume Coll.
n', o'. ♂ ad.; *p'*. ♀ ad. sk.	Pakchan Creek, Feb. 8, 1874 (*W. Davison*).	Hume Coll. (Types of species.)
q'. ♂ ad. sk.	Mecklong, Siam.	H. C. V. Hunter, Esq. [P.].

5. CHLORONERPES.

	Type.
Chloronerpes, *Swains. Classif. B.* ii. p. 307 (1837)	C. rubiginosus.
Chrysopicus (pt.), *Bp. Consp. Volucr. Zygod.* no. 143 (1854)	C. rubiginosus.
Lampropicus, *Malh. Introd. Monog. Picid.* p. liii (1861)	C. aurulentus.
Craugasus, *Cab. & Heine, Mus. Hein.* iv. p. 157 (1863)	C. flavigula.

Range. Southern and Eastern Mexico to Sierra Madre above Ciudad Victoria, Tamaulipas; through Central and South America south into Paraguay and the Argentine Republic (Tucuman).

Key to the Species.

A. Underparts not uniform; upper tail-coverts not red.
  a^1. Quills rufous on more or less of the inner webs.
    a''. Quills without bars or spots.
      a'''. Underparts entirely barred.
        a^4. Chin and throat uniform yellow.
          a^5. Crown, occiput, and nape red in the male, and olive in the female.
            a^6. Smaller, length 8·3 inches, wing 4·85; side of the neck yellow, the yellow stripe from the upper mandible uniting with it; with only a short olive stripe behind red malar region in male and not separating the yellow of the neck from the barred fore neck. [p. 72.
              a^7. With red malar stripe ..... *chrysochlorus* ♂ ad.,
              b^7. Malar stripe olive ..... *chrysochlorus* ♀ ad., [p. 72.
            b^6. Larger, length 9·3 inches, wing 5·6; side of the neck as well as the face olive, crossed by a yellow stripe from the base of the upper mandible to the nape; the olive behind the red malar region in the male appearing as a broad stripe bordering the throat and fore neck. [p. 73.
              c^7. With red malar stripe ..... *brasiliensis* ♂ ad.,
              d^7. Malar stripe olive ..... *brasiliensis* ♀ ad., [p. 73.
          b^5. Crown, occiput, and nape yellow; malar stripe olive..... *xanthochlorus* ♂ ad.*, [p. 73.
        b^4. Chin and throat barred like the underparts; the malar region in the young males olive, devoid of red.

* The female is apparently unknown. The only two examples of this species with which I am acquainted are in the Collection, and are labelled males. It is very remarkable that this sex should be totally devoid of red upon the head.

c^3. Crown, occiput, and malar stripe red ... *capistratus* ♂ ad., [p. 74.

d^3. Crown, occiput, and malar stripe olive ... *capistratus* ♀ ad., [p. 75.

c^4. Chin and throat uniform red.

e^5. Top of the head and the occiput red ... *erythropsis* ♂ ad., [p. 75.

f^3. Top of the head dull golden, occiput red ... *erythropsis* ♀ ad., [p. 76.

b'''. Underparts below the chest barred, chest transversely and otherwise spotted with white; chin and throat white.

d^4. Top of the head, occiput, nape, and malar stripe red ... *leucolæmus* ♂ ad., [p. 76.

e^4. Forehead, crown, and malar stripe olive, the occiput and nape (only) red ... *leucolæmus* ♀ ad., [p. 77.

c'''. Fore neck, chest, and breast covered with diamond-shaped spots of white; flanks and thighs barred or transversely spotted with white; chin and throat yellow like the face. [p. 78.

f^4. Crown, occiput, and malar stripe red. *flavigula* ♂ ad.,

g^4. The red on the head confined to the occiput ... *flavigula* ♀ ad., [p. 78.

b''. Quills barred with black.

d''. Face crossed by two yellow stripes; with red malar stripe; chin and throat uniform golden yellow; under surface of the body entirely barred. [p. 79.

h^4. Top of the head and occiput red .... *aurulentus* ♂ ad.,

i^4. Top of the head olive, with a red occipital band ... *aurulentus* ♀ ad., [p. 80.

e''. Face crossed by one yellow stripe; throat pale fulvous with dusky spots; breast olive, spotted with pale yellow; with scarlet occipital band; top of the head olive-brown ... *callopterus* ♀ ad., [p. 80.

f''. Face not crossed by a yellow stripe; chin and throat uniform olive.

j^4. Top of the head, nape, and malar stripe red ... *simplex* ♂ ad., p. 81.

k^4. Top of the head olive; with red nuchal band and some red specks on the cheeks ... *simplex* ♀ ad., p. 81.

b'. Quills yellow or whitish on more or less of the inner webs, and without bars or spots.

c''. With no red on the top of the head, occiput, or nape.

g'''. Lores (only) dingy buff; face dull white, varied with olivaceous dusky, the ear-coverts very distinctly barred; with red malar stripe ... *auricularis* ♂ ad., [p. 83.

h'''. Orbital region and ear-coverts, as well as the lores, pale brownish buff, the posterior ear-coverts having dusky

longitudinal stripes; malar region dusky, spotted with dingy white .... *godmani* ♀ ad., p. 83.

". With red on the occiput and nape, and sometimes also covering the whole top of the head.

i'''. Chest and breast not barred, but covered with more or less hastate markings of yellowish white or yellow; chin and throat striped olive dusky and white; anterior half of face buff, the ear-coverts greyish, with dusky striations; rump generally uniform.

*l*⁴. Malar region red..... *æruginosus* ♂ ad., [p. 82.

*m*⁴. Malar region striped black and white..... *æruginosus* ♀ ad., [p. 82.

j'''. Chest and breast, as well as the remaining underparts, evenly barred; face brownish drab.

*n*⁴. Rump (as well as the tail-coverts) barred.

*g*⁵. Rump and upper tail-coverts coloured like the back, and narrowly barred with yellow; chin and throat striped dusky black or olivaceous, and white; ground-colour of fore neck, chest, and breast olive, the latter parts rusty.

*c*⁶. Malar region red..... *yucatanensis* ♂ ad., [p. 84.

*d*⁶. Malar region striped black and white..... *yucatanensis* ♀ ad., [p. 84.

*h*⁵. Rump and upper tail-coverts yellow, narrowly barred with dusky olive; chin and throat black, spotted with yellowish white (uniform in young); ground-colour of fore neck, chest, and breast olive-black.

*e*⁶. Malar region red ..... *gularis* ♂ ad., p. 86.

*f*⁶. Malar region black, spotted with yellowish white ..... *gularis* ♀ ad., p. 86.

*o*⁴. Rump uniform.

*i*⁵. Chin and throat striped black and white.

*g*⁶. Malar region red ..... *rubiginosus* ♂ ad., [p. 87.

*h*⁶. Malar region striped black and white ..... *rubiginosus* ♀ ad., [p. 88.

*j*⁵. Chin and throat black, spotted with white; malar region uniform black ..... *rubiginosus* juv., p. 88.

B. Underparts uniform; upper tail-coverts red.

c'. Crown, occiput, and nape red ..... *striatus* ♂ ad., p. 89.

d'. Crown black; occiput and nape (only) red.

e''. Crown uniform ..... *striatus* ♀ ad., p. 90.

f''. With white hair-like shaft-streaks on crown..... *striatus* juv. (♀?), [p. 90.

1. Chloronerpes chrysochlorus.

Picus chrysochlorus, *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 98 (1818); *id. & Bonn. Enc. Méth.* iii. p. 1320 (1823); *Sundev. Consp. Av. Picin.* p. 12 (1866).

Picus macrocephalus, *Spix, Av. Bras.* i. p. 60, pl. liii. fig. 2, ♂ (1824).

Picus aurulentus (*non Ill.*), *Wagl. Syst. Av.* Picus, sp. 49 (1827) (♂ *only*); *Lesson, Traité*, i. p. 224 (1831) (♂ *only*).

Chloronerpes macrocephalus, *Swains. Classif. B.* ii. p. 308 (1837).

Chloronerpes aurulentus (*non Ill.*), *Bp. Consp. Gen. Av.* i. p. 116 (1850).

Chloronerpes brasiliensis (*non Swains.*), *Reichenb. Scans. Picinæ*, p. 351, no. 804, pl. dcxxii. figs. 4148–49 (1854).

Chrysopicus brasiliensis, *Bp. Consp. Volucr. Zygod.* p. 9, no. 152 (1854).

Chloropicus chrysochlorus, *Malh. Picidæ*, ii. p. 141, pl. lxxxiv. figs. 1, 2, ♂ ♀ (1862).

Chloropicus brasiliensis, *Malh. Picidæ*, ii. pl. lxxxv. figs. 1 ♂ (juv.?), 2 ♀ (1862).

Craugasus chrysochlorus, *Cab. & Heine, Mus. Hein.* iv. p. 159 (1863).

Chloronerpes chrysochlorus, *Gray, List Picid. Brit. Mus.* p. 106 (1868); *id. Hand-l. B.* ii. p. 199, no. 8781 (1870); *Pelz. Orn. Bras.* p. 243 (1870); *Scl. & Salv. Nomencl. Av. Neotr.* p. 99 (1873).

Adult male. Entire back, rump, upper tail-coverts, scapulars, wing-coverts, and outer webs of quills olive, brighter on the back and wing-coverts; inner webs of the quills brown, with a broad and elongated marginal patch of rufous or rufous buff on the basal portion; shafts brown; tail blackish brown, the feathers paler on the margin, and more or less edged with olive at the base; shafts brown with black tips, the base of the central pair yellowish; upper nasal plumes deep olive, the lower ones yellow; forehead, crown, occiput, and nape, also the malar stripe, crimson; face dark olive, with a bright yellow stripe from the base of the upper mandible running on to the side of the neck, which is also yellow; chin and throat uniform golden yellow; fore neck to the vent golden yellow, the under tail-coverts whiter, the whole barred with blackish olive; under wing-coverts and axillaries rufous buff, the tips of the latter and the edge of the wing golden yellow. Total length 8·3 inches, culmen 1, wing 4·85, tail 2·85, tarsus 0·8; toes (without claws)—outer anterior 0·63, outer posterior 0·63, inner anterior 0·55, inner posterior 0·27.

Adult female. Differs from the adult male in the entire absence of red on the head, the top of the head, occiput, and nape being golden olive like the back, and the malar stripe deep olive. Total length 8 inches, culmen 0·98, wing 4·85, tail 2·8, tarsus 0·78.

Hab. South Brazil, north to Cujaba, and in Paraguay.

a. ♀ ad. sk. S.E. Brazil (*J. Verreaux*). Sclater Coll.

2. Chloronerpes brasiliensis.

Picus brasiliensis, *Swains. Zool. Illustr.* pl. xx. ♂ ad. (1820–21); *id. Trans. Wern. Soc. N. Hist. Edin.* iii. p. 291 (1821); *Steph. Gen. Zool.* xiv. p. 168, ♂ (1826).

Picus polyzonus, *Valenc. Dict. Sc. Nat.* xl. p. 170 (1826); *Drap. Dict. Class.* xiii. p. 499, ♀ (1828); *Sundev. Consp. Av., Picin.* p. 12 (1866).

Picus polyzonos, *Less. Traité*, i. p. 225 (1831) (♀ *only*).

Chloronerpes polyzonus, *Gray, Gen. B.* ii. p. 443, pl. 110. fig. 4 (1846); *Reichenb. Scans. Picinæ*, p. 353, no. 810, pl. dclxxv. fig. 4466, ♀ (1854); *Gray, List Picid. Brit. Mus.* p. 107 (1868); *id. Hand-l. B.* ii. p. 199, no. 8783 (1870); *Salv. Cat. Strickl. Coll.* p. 396, no. 1935 (1882).

Chrysopicus polyzonus, *Bp. Consp. Volucr. Zygod.* p. 9, no. 145 (1854).

Chloropicus polyzonus, *Malh. Picidæ*, ii. p. 136, pl. lxxxiii. figs. 1, 2, ♂ ♀ ad. (1862).

Craugasus polyzonus, *Cab. & Heine, Mus. Hein.* iv. p. 159 (1863).

Chloronerpes capistratus (pt.), *Pelz. Orn. Bras.* p. 243 (1870).

Adult male. Resembles *C. chrysochlorus*, but is very much larger, and differs in having the face and entire neck, with the exception of the yellow stripe which runs from the nostrils to the side of the nape and the red malar patch, deep olive; the dark olive stripe behind the malar region extending in an unbroken line to the shoulders and not barred across the lower part as in *C. chrysochlorus*, which has only a short olive stripe behind the red malar one, the side of the neck being yellow, and the lower anterior portion barred with olive. Total length 9·3 inches, culmen 1·34, wing 5·6, tail 2·83, tarsus 0·86; toes (without claws)—outer anterior 0·86, outer posterior 0·75, inner anterior 0·75, inner posterior 0·32.

Adult female. Differs from the adult male in having the head devoid of red, the whole of the top of the head and the occiput being olive, and the malar stripe also olive, but of a blacker shade. Total length 9·5 inches, culmen 1·4, wing 5·9, tail 2·7, tarsus 0·95.

Hab. Brazil (Province of Bahia).

a. ♀ ad. st.	S. America.	Purchased.
b. ♂ ad. sk.	Brazil.	Salvin-Godman Coll.

3. Chloronerpes xanthochlorus. (Plate I.)

Chloronerpes xanthochlorus, *Scl. & Salv. P. Z. S.* 1875, pp. 237, 238, et 1879, p. 533.

Adult male. Back, rump and upper tail-coverts, scapulars, wing-coverts and outer webs of quills olive; inner webs of the quills rufous externally, in an oblique line from the base of the shaft to the margin, about halfway down on the second and third primaries, and reaching nearly to the tip in the secondaries, the remaining portion of the web brownish dusky, slightly tinged with olive: shafts brown; central tail-feathers bright olive, the lateral feathers

duller and with the apical third black next the shaft, the base of the inner webs of the two central feathers bright buff; shafts brown with black tips and yellowish-brown bases; nasal plumes deep olive; forehead, crown, occiput, and nape golden yellow; sides of the face and neck olive, more golden on the malar region and lower side of the neck, which is barred with dusky olive; a yellow stripe from the nostrils crosses the face and extends to the side of the hind neck; from the chin to the under tail-coverts (both inclusive) golden with a buffy tinge, the chin and throat uniform, the remainder narrowly barred with dusky olive; under wing-coverts and axillaries golden rufous buff, the edge of the wing bright golden yellow. Total length 8 inches, culmen 0·97, wing 5·05, tail 2·55, tarsus 0·78; toes (without claws)—outer anterior 0·77, outer posterior 0·67, inner anterior 0·54, inner posterior 0·37.

Hab. San Cristoval, Western Venezuela, and westward into Antioquia.

a. ♂ ad. sk.	San Cristoval, Venezuela (*A. Goering*).	Sclater Coll. (Type of species.)
b. ♂ ad. sk.	Remedios, Antioquia, U. S. C. (*T. K. Salmon*).	Salvin-Godman Coll.

4. Chloronerpes capistratus.

Picus polyzonus (*non Valenc.*), *Wagl. Syst. Av.* Picus, sp. 41 (1827); *id. Isis*, 1829, p. 513.
Picus polyzonus, *Less. Traité*, i. p. 225 (1831) (♂ *only*).
Picus aurulentus, ♀, *Lesson, Traité*, i p. 224 (♀) (1831).
Chloronerpes polyzonus, *Gray, Gen. B.* ii. p. 443 (1846); *Bp. Consp. Gen. Av.* i. p. 117 (1850); *Burm. Th. Bras.* ii. p. 226 (1856).
Chrysopicus capistratus, *Bp. Consp. Volucr. Zygod.* p. 9, no. 151 (1854).
Chloropicus capistratus, *Malh. Picidæ*, ii. p. 140, pl. lxxxiii. figs. 4, 5, ♂ ♀ (1862).
Craugasus capistratus, *Cab. & Heine, Mus. Hein.* iv. p. 160 (1863).
Picus capistratus, *Sundev. Consp. Av., Picin.* p. 12 (1866).
Chloronerpes capistratus, *Gray, List Picid. Brit. Mus.* p. 107 (1868); *id. Hand-l. B.* ii. p. 199, no. 8782 (1870); *Pelz. Orn. Bras.* p. 243 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 99 (1873).

Adult male. Resembles *C. brasiliensis*, but differs in having the chin and throat less yellow, and entirely barred with blackish olive like the underparts. The quills are not barred, and on the face there is only one yellow stripe, which commences at the nostrils, passes under the ear-coverts and runs down the side of the neck; these points presenting a strong likeness to both *C. brasiliensis* and *C. chrysochlorus*. Total length 8·5 inches, culmen 1·08, wing 5·35, tail 2·8, tarsus 0·8; toes (without claws)—outer anterior 0·78, outer posterior 0·63, inner anterior 0·53, inner posterior 0·33.

Immature male. Resembles the adult male, but has the malar stripe olive.

Adult female. Differs from the adult male in the entire absence of red on the head, the forehead, crown, occiput, and nape, as well as the malar region, being olive. Total length 8·5 inches, culmen 1·13, wing 5·42, tail 2·86, tarsus 0·77.

Hab. Upper Amazons, from Barra do Rio Negro west into Ecuador, and north into British Guiana (Rupununi River).

a. ♀ ad. st.	South America.	Old Coll.
b. ♂ immu.; *c.* ♀ ad. sk.	Sarayacu, Ecuador (*C. Buckley*).	Salvin-Godman Coll.
d. ♀ ad. sk.	Sarayacu, Ecuador (*C. Buckley*).	Salvin-Godman Coll.
e. ♀ ad. st.	Brazil.	Purchased.
f. ♂ ad. sk.	Barra do Rio Negro, Brazil, Aug. 1833 (*J. Natterer*).	Selater Coll.
g, h. ♂ ♀ ad. sk.	Rupununi River, British Guiana, April–July (*H. Whitely*).	Salvin-Godman Coll.

5. Chloronerpes erythropsis.

Picus icterocephalus, var. (*non Ind. Orn.* i. p. 241), *Lath. Ind. Orn. Suppl.* p. xxxi (1801).

Picus erythropsis, *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 98 (1818); *id. & Bonn. Enc. Méth.* iii. p. 1320 (1823).

Picus icterocephalus (*non Lath.*) ♂, *Spix, Av. Bras.* p. 62, pl. liv. fig. 1, = ♀ (1824).

Picus erythrops, *Wagl. Syst. Av.* Picus, sp. 53 (1827); *Neuwied, Beitr. Naturg. Bras.* iv. p. 427 (1832).

Chloronerpes erythrops, *Gray, Gen. B.* ii. p. 443 (1846); *Bp. Consp. Gen. Av.* i. p. 116 (1850); *Reichenb. Scans. Picinæ*, p. 352, no. 806, pl. dcxxiii. figs. 4152–53, ♂ ♂ (1854); *Sclat. P. Z. S.* 1857, p. 268.

Chrysopicus erythropsis, *Bp. Consp. Volucr. Zygod.* p. 9, no. 149 (1854).

Chloropicus erythropsis, *Malh. Picidæ*, ii. p. 143, pl. lxxxvii. figs. 1–2, ♂ ♀ (1862).

Chloronerpes erythropsis, *Sclat. Cat. Amer. B.* p. 338, no. 2022 (1862); *id. & Salv. P. Z. S.* 1867, p. 594; *Gray, List Picid. Brit. Mus.* p. 106 (1868); *id. Hand-l. B.* ii. p. 198, no. 8780 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 99 (1873); *Salv. Cat. Strickl. Coll.* p. 395, no. 1933 (1882).

Craugasus erythropes, *Cab. & Heine, Mus. Hein.* iv. p. 158 (1863).

Picus erythropes, *Sundev. Consp. Av., Picin.* p. 12 (1866).

Chloronerpes erythropes, *Pelz. Orn. Bras.* p. 244 (1870).

Adult male. Back, rump and upper tail-coverts, scapulars, wing-coverts, outer webs of the secondaries and inner webs of the innermost golden olive, the outer webs of the primaries brown margined with olive at the base; inner webs of quills rufous at the base, brownish black on the apical portion, the latter colour occupying the greater part of the outer primaries and diminishing in extent upon each inner feather until it only forms an apical spot; shafts brown; tail-feathers brownish black, margined with olive at the base, shafts brown with black tips; nasal plumes dark brown; forehead, crown, occiput and nape, malar region and immediately

behind it, chin and throat crimson; sides of the face and upper neck golden yellow; lower side of the neck olive, barred with dull yellowish white; from the fore neck to the under tail-coverts, both inclusive, yellowish white, barred with olive-black; axillaries and edge of the wing yellowish white, barred with olive-black, the inner wing-lining rufous buff. Total length 7·5 inches, culmen 0·85, wing 4·3, tail 2·25, tarsus 0·75; toes (without claws)—outer anterior 0·48, outer posterior 0·48, inner anterior 0·42, inner posterior 0·25.

Adult female. Differs from the adult male in having the forehead and fore part of the crown dull golden yellow, and the red on the malar region, chin, and throat less intense. Total length 7·3 inches, culmen 0·82, wing 4·53, tail 2·45, tarsus 0·68.

Hab. Eastern and Southern Brazil. Dr. Sclater (P. Z. S. 1857, p. 268) records a specimen from Ega, Upper Amazons (*Bates*). If this be a correct identification, the species would appear to range right through Western Brazil also.

a. ♂ ad. st.	Brazil.	Purchased.
b, c. ♂ ♀ ad. sk.	Brazil.	Sclater Coll.
d, e. ♂ ♀ ad. sk.	Brazil.	Gould Coll.
f, g. ♂ ad.; *h.* ♀ ad. sk.	Brazil.	Tweeddale Coll.
i. ♂ ad. sk.	Brazil.	Riocour Coll.
k, l. ♂ ♀ ad. sk.	Pernambuco.	Purchased.
m. ♂ ad. sk.	Pernambuco (*W. A. Forbes*).	Salvin-Godman Coll.
n. ♀ ad. sk.	Pernambuco (*Craven*).	Sclater Coll.
o, p. ♂ ad.; *q.* ♀ ad. sk.	Bahia (*Dr. Wucherer*).	Salvin-Godman Coll.
r. ♀ ad. sk.	Rio Janeiro.	R. H. Wood, Esq. [P.].

6. Chloronerpes leucolæmus.

Picus leucolæmus, *Malh. Mém. Soc. Roy. Liége*, 1845, p. 68; *Sundev. Consp. Av., Picin.* p. 13 (1866).
Chloropicos isidori, *Malh. Rev. et Mag. de Zool.* 1850, p. 154.
Chrysopicus leucolæmus, *Bp. Consp. Volucr. Zygod.* p. 9, no. 143 (1854).
Chrysopicus isidori, *Bp. Consp. Volucr. Zygod.* p. 9, no. 153 (1854).
Chloropicus leucolæmus, *Malh. Picidæ*, ii. p. 145, pl. lxxxv. figs. 3, 4, ♂ ♀ (1862).
Craugasus leucolæmus, *Cab. & Heine, Mus. Hein.* iv. p. 160 (1863).
Chloronerpes leucolæmus, *Gray, List Picid. Brit. Mus.* p. 105 (1868); *id. Hand-l. B.* ii. p. 199, no. 8784 (1870); *Pelz. Orn. Bras.* p. 244 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 100 (1873); *Tacz. P. Z. S.* 1874, p. 546; *id. Orn. Pérou*, iii. p. 85 (1886).

Adult male. Back, rump, upper tail-coverts, scapulars, wing-coverts, outer webs of the secondaries and part of the inner webs of the innermost, also the basal margin of the outer webs of the primaries, golden-olive, the remaining portion of the latter webs being brown with the base rufous; inner webs of the quills rufous with the apical portion blackish brown, the latter colour occupying quite the half of the outer primaries and diminishing in extent upon each

inner feather; shafts brown; tail-feathers brownish black, margined at the base with golden-olive, shafts brown with black tips; nasal plumes black; forehead, crown, occiput, nape, and malar stripe crimson; sides of the face and neck golden olive, with a golden-yellow stripe from the base of the upper mandible crossing the face and running down the side of the neck; hind neck golden olive; chin and throat yellowish white; fore neck, chest, and breast olive, with varied transverse spots of yellowish white, these parts in old birds being distinctly barred; under surface of the body and under tail-coverts yellowish white, narrowly barred with blackish olive; axillaries and edge of the wing yellow, barred with blackish olive, the inner lining of the wing rufous buff. Total length 7 inches, culmen 0·9, wing 4·65, tail 2·5, tarsus 0·75; toes (without claws)—outer anterior 0·62, outer posterior 0·62, inner anterior 0·5, inner posterior 0·28.

Adult female. Differs from the adult male in having the forehead and crown golden olive, also in wanting the red malar stripe, this region being golden olive like the top of the head. Total length 7·5 inches, culmen 0·87, wing 4·8, tail 2·35, tarsus 0·67.

Immature. Differ from the adult of their respective sexes in having the chest-feathers longitudinally centred with yellowish white and a subterminal olive-black band.

Hab. South Matto Grosso, Brazil, and north into Eastern Ecuador and New Granada.

a. ♂ ad. sk.	Bogota.	Purchased.
b, c. ♂ ♀ imm.; *d.* ♀ ad. sk.	Sarayacu, Ecuador (*C. Buckley*).	Salvin-Godman Coll.
e, f. ♂ ♀ ad. sk.	Engenho-do-Gama, Brazil, July, Aug. (*J. Natterer*).	Sclater Coll.

7. Chloronerpes flavigula.

Le Petit Pic à gorge jaune, *Buff. Hist. Nat. Ois.* p. 379, ♂ (1783).
Pic à gorge jaune de Cayenne, *Daubent. Pl. Enl.* 784, ♂.
Picus flavigula, *Bodd. Tabl. Pl. Enl.* p. 49, no. 784, ♂ (1783); *Sundev. Consp. Av., Picin.* p. 13 (1866).
Picus chlorocephalus, *Gm. Syst. Nat.* i. p. 432 (1788); *Less. Traité*, i. p. 229 (1831); *Cab. in Schomb. Reis. Guian.* iii. p. 716 (1848).
Picus icterocephalus, *Lath. Ind. Orn.* i. p. 241 (1790); *Steph. Gen. Zool.* ix. p. 191, pl. xxxv. (1815); *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 86 (1818); *id. & Bonn. Enc. Méth.* iii. p. 1314 (1823); *Spix, Av. Bras.* p. 62, pl. liv. fig. 2, ♀ (1824); *Wagl. Syst. Av.* Picus, sp. 54 (1827); *Drap. Dict. Class.* xiii. p. 499 (1828).
Chloronerpes icterocephalus, *Gray, Gen. B.* ii. p. 443 (1846); *Reichenb. Scans. Picinæ*, p. 351, no. 805, pl. dcxxiii. figs. 4154–55, ♂ ♀ (1854).
Chloronerpes flavigula, *Gray, Gen. B.* iii. App. p. 22 (1849); *Sclat. & Salv. P. Z. S.* 1867, pp. 587–594; *Gray, List Picid. Brit. Mus.* p. 105 (1868); *id. Hand-l. B.* ii. p. 198, no. 8778 (1870); *Pelz. Orn. Bras.* p. 244 (1870); *Salv. Cat. Strickl. Coll.* p. 395, no. 1934 (1882); *Tacz. P. Z. S.* 1882, p. 42.

Chloronerpes chlorocephalus, *Bp. Consp. Gen. Av.* i. p. 116 (1850).
Chrysopicus chlorocephalus, *Bp. Consp. Volucr. Zygod.* p. 9, no. 147 (1854).
Chloropicus chlorocephalus, *Molh. Picidæ*, ii. p. 144, pl. lxxxvi. figs. 4, 5 ♂ ♂ sen., 6 ♀ ad. (1862).
Chloronerpes flavigularis, *Sclat. Cat. Amer. B.* p. 339, no. 2023 (1862); *id. & Salv. Nomencl. Av. Neotr.* p. 99 (1873); *iid. P. Z. S.* 1873, p. 291; *Salv. Ibis*, 1886, p. 58; *Tacz. Orn. Pérou*, iii. p. 84 (1886).
Craugasus flavigula, *Cab. & Heine, Mus. Hein.* iv. p. 157 (1863).

Adult male. Back, rump and upper tail-coverts, scapulars, wing-coverts and outer webs of secondaries olive, brighter on the back and scapulars; the outer webs of the primaries blackish brown, more or less margined with olive; inner webs of quills rufous on the basal portion, blackish brown on the apical portion, the latter colour occupying the greater part of the web in the outer primaries and diminishing in extent upon each inner feather, except the innermost secondaries, which have the inner webs black, margined with smoky-grey at the base; shafts black; tail black, the feathers margined at the base with yellowish olive, shafts black; nasal plumes brown; forehead, crown, occiput, nape, and malar stripe crimson; sides of the face and upper neck, chin and throat golden yellow; hind neck olive; lower side of the neck, fore neck, chest, and breast olive, the fore neck and chest with longitudinal spots of yellowish white, the breast having larger heart-shaped or triangular spots of white; remainder of the underparts dusky olive with bar-like spots of white; under tail-coverts white with crescentic markings of olive-black or dusky black; under wing-coverts rufous buff, with transverse spots of dusky olive; axillaries and the edge of the wing yellowish white barred with dusky olive. Total length 7 inches, culmen 0·8, wing 4·35, tail 2·35, tarsus 0·7; toes (without claws)—outer anterior 0·53, outer posterior 0·53, inner anterior 0·45, inner posterior 0·25.

Immature male. Has the feathers above the eye and bordering the crown and occiput olive with yellowish tips, most of the feathers of the forehead, crown, and occiput are tipped with red, those not so are dusky olive with dull yellowish tips.

Adult female. Wants the red malar patch, and has the forehead and crown dull golden yellow, slightly olivescent. Total length 7 inches, culmen 0·85, wing 4·6, tail 2·55, tarsus 0·7.

Young female. Has the upper parts dull olive; the forehead and crown also dull olive, with a narrow occipital band of scarlet; face lemon-yellow; chin and upper throat dull white; fore neck and chest dusky, with diamond-shaped spots of white; the remainder of the underparts and under tail-coverts dull white crossed by dusky bars.

Hab. Guiana and Upper Amazonian Region, and extending into North-east Peru.

a. ♀ ad. sk.	Bartica Grove, British Guiana, Oct. (*H. Whitely*).	Sclater Coll.
b, c. ♂ ♀ ad.; *d.* ♂ juv. sk.	Bartica Grove, Jan., Sept., Oct. (*H. Whitely*).	Salvin-Godman Coll.

e. ♂ ad. sk.	Cayenne.	Sclater Coll.
f. ♂ imm. sk.	Oyapoc, Cayenne.	Salvin-Godman Coll.
g. ♂ imm. sk.	Oyapoc.	Sclater Coll.
h. ♂ ad. sk.	Pará, Lower Amazons (*A. R. Wallace*).	Salvin-Godman Coll.
i. ♂ ad. sk.	Amazons (*A. R. Wallace*).	Salvin-Godman Coll.
k. ♂ imm. sk.	Sarayacu, Ecuador (*C. Buckley*).	Salvin-Godman Coll.
l. ♂ imm.; *m.* ♀ juv. sk.	Chamicuros, Peruvian Amazons, July, Oct.	E. Bartlett [C.].
n. ♀ ad. sk.	[Peruvian Amazons.]	Salvin-Godman Coll.

8. Chloronerpes aurulentus.

Carpintero verde dorado, *Azara, Apunt.* ii. p. 318, no. 256 (♂) (1805).

Carpintero dorado pardo, *Azara, Apunt.* ii. p. 320, no. 257 (♀) (1805).

Picus auratus (*non Linn.*), *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 70, ♀ (1818); *id. & Bonn. Enc. Méth.* iii. p. 1305 (1823).

Picus aurulentus, *Temm. Pl. Col.* 10e livr. pl. lix. fig. 1, ♂ (1823); *Licht. Verz. Doubl.* p. 10, nos. 65, 66, ♂ ♀ (1823); *Steph. Gen. Zool.* xiv. p. 166 (1826); *Sundev. Consp. Av., Picin.* p. 12 (1866).

Picus xanthotænia, *Wagl. Syst. Av.* Picus, sp. 50 (1827).

Picus maculipennis, *Wagl. Syst. Av.* Picus, sp. 51, ♀ (1827); *id. Isis*, 1829, p. 514.

Picus subauratus, *Drap. Dict. Class. Hist. Nat.* xiii. p. 496, ♀ (1828).

Chloronerpes aurulentus, *Gray, Gen. B.* ii. p. 443 (1846); *Hartl. Ind. Azara*, p. 16, nos. 256 ♂, 257 ♀ (1847); *Reichenb. Scans. Picinæ*, p. 351, no. 803, pl. dcxxiii. figs. 4150–51 (1854); *Burm. Th. Bras.* ii. p. 227 (1856); *Scl. Cat. Amer. B.* p. 338, no. 2021 (1862); *Gray, List Picid. Brit. Mus.* p. 105 (1868); *id. Hand-l. B.* ii. p. 198, no. 8779 (1870); *Pelz. Orn. Bras.* p. 243 (1870); *Scl. & Salv. Nomencl. Av. Neotr.* p. 99 (1873); *White, P. Z. S.* 1882, p. 617; *Scl. & Huds. Arg. Orn.* ii. p. 21 (1889).

Chloronerpes xanthotænia, *Gray, Gen. B.* ii. p. 443 (1846).

Chloronerpes maculipennis, *Gray, Gen. B.* ii. p. 443 (1846); *Bp. Consp. Gen. Av.* i. p. 116 (1850).

Chloropicos aurulentus, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 352.

Chrysopicus aurulentus, *Bp. Consp. Volucr. Zygod.* p. 9, no. 144 (1854).

Chrysopicus maculipennis, *Bp. Consp. Volucr. Zygod.* p. 9, no. 146 (1854).

Chloropicus aurulentus, *Malh. Picidæ*, ii. p. 137, pl. lxxxiv. figs. 4–5, ♂ ♀ ad. (1862).

Craugasus auratus (*non Linn.*), *Cab. & Heine, Mus. Hein.* iv. p. 158 (1863).

Adult male. Back and scapulars golden olive; rump and upper series of upper tail-coverts dusky olive, the outermost of the latter transversely varied with whitish, the lower series of the coverts blackish brown with olive margins; wing-coverts olive; quills rufous, barred with black and having black tips, the outer primaries not barred on the outer webs, the secondaries having their outer webs broadly margined with or entirely golden olive; shafts dark brown; tail and the shafts black; upper nasal plumes dusky olive,

the lower ones yellow; forehead, crown, occiput, and malar stripe crimson; lores, a stripe above the eye and extending to the nape, and another stripe running under the ear-coverts yellow, and between these a broad dusky olive stripe; chin and throat golden yellow; hind neck like the back; side of the neck, fore neck, and entire underparts olive dusky barred with dull white, the side of the neck and the breast washed with olive; under tail-coverts barred dusky black and dull white; axillaries and edge of the wing pale yellow, barred with olive-black; the inner wing-lining rufous-buff, with a few dusky transverse spots. Total length 8·5 inches, culmen 1·03, wing 4·8, tail 2·85, tarsus 0·77; toes (without claws)—outer anterior 0·68, outer posterior 0·62, inner anterior 0·52, inner posterior 0·3.

Adult female. Differs from the adult male in having the forehead, crown, and the outer edge of the occiput deep golden olive, with a broad occipital band of crimson. Total length 8 inches, culmen 0·93, wing 4·75, tail 2·78, tarsus 0·8.

Hab. South Brazil and the Argentine Republic.

a. ♂ ad. st.	Brazil.	Purchased.
b. ♂ ad. sk.	Brazil.	Sclater Coll.
c, d. ♂ ♀ ad. sk.	Brazil.	Purchased.
e, f. ♂ ♀ ad. sk.	Brazil.	Salvin-Godman Coll.
g, h. ♂ ♀ ad. sk.	Brazil.	Tweeddale Coll.
i. ♂ ad. sk.	Brazil.	Riocour Coll.
k, l. ♂ ♀ ad. sk.	Novo Fribourgo, Rio de Janeiro (*J. Vouds*).	Salvin-Godman Coll.
m. ♀ ad. sk.	Lagos dos Patos, Rio Grande do Sul, Brazil (*H. Rogers*).	Salvin-Godman Coll.
n. ♀ imm. sk.	Pelotas, Rio Grande do Sul (*Joyner*).	Salvin-Godman Coll.
o. Skeleton.	Brazil.	Eyton Coll.

9. Chloronerpes callopterus.

Chloronerpes callopterus, *Lawr. Ann. Lyc. Nat. Hist. N. York*, 1862, p. 476 (♀); *Gray, List Picid. Brit. Mus.* p. 106 (1868); *id. Hand-l. B.* ii. p. 199, no. 8785 (1870); *Salv. Ibis*, 1874, p. 317.
Craugasus callopterus, *Cab. & Heine, Mus. Hein.* iv. p. 159 (1863).
Picus callopterus, *Sundev. Consp. Av., Picin.* p. 12 (1866).

Adult female. Back, scapulars, wing-coverts, rump, and upper tail-coverts deep golden olive, the tail-coverts edged with yellowish at the tip; quills rufous, externally margined (more or less broadly) with golden olive, and having transverse spots or partial bars of black upon both webs, and the tips also black, but those of the secondaries washed with olive; shafts of primaries brown and of secondaries orange-reddish; tail brownish black, the central feathers edged with olive at the base; shafts brown, with black tips; head and neck, chest and breast olive (darker on the forehead and crown), with a crimson occipital and nuchal band, and a yellow stripe from the base of the upper mandible running backwards under the ear-coverts; the chin varied with brownish white, the feathers of the

throat, chest, and breast with a yellow shaft-stripe terminating in a diamond-shaped spot; the remainder of the underparts and the under tail-coverts yellow, narrowly barred with deep olive; under wing-coverts and axillaries golden buff. Total length 6·8 inches, culmen 0·9, wing 4·3, tail 2·3, tarsus 0·73; toes (without claws)—outer anterior 0·63, outer posterior 0·67, inner anterior 0·52, inner posterior 0·27.

Hab. New Granada, and extending into Veragua.

a. ♀ ad. sk.	Veragua (*E. Arcé*).	Salvin-Godman Coll.

10. Chloronerpes simplex.

Chloronerpes simplex, *Salv. P. Z. S.* 1870, p. 212; *id. & Scl. Nomencl. Av. Neotr.* p. 99 (1873); *Salv. Ibis*, 1874, p. 317; *Zeled. Cat. Av. Costa Rica*, 1882, p. 23, no. 490; *id. Proc. U. S. Nat. Mus.* 1885, p. 111.

Adult female. Resembles *C. callopterus*, but differs in wanting the yellow stripe across the face, and in having the feathers which surround the eye more or less tipped with dull red. Total length 7 inches, culmen 0·8, wing 4·45, tail 2·5, tarsus 0·66; toes (without claws)—outer anterior 0·58, outer posterior 0·58, inner anterior 0·45, inner posterior 0·3.

Adult male. "Has the top of the head entirely red, and an elongated rictal spot of the same colour. In other respects it resembles the female. Total length 7·0 inches, wing 4·5, tail 2·6, bill 1·0, tarsus 0·7" (*Salvin*).

Hab. Chiriqui and southern part of Costa Rica.

a. ♀ ad. sk.	Chiriqui, Veragua (*E. Arcé*).	Sclater Coll. (Type of species.)
b. ♀ ad. sk.	Bugaba, Chiriqui (*E. Arcé*).	Salvin-Godman Coll.

11. Chloronerpes æruginosus *.

Chloronerpes rubiginosus (*non Swains.*), *Gray, Gen. B.* ii. p. 443, pl. cx. ♂ (1846).

Chloronerpes æruginosus (*Licht. in Mus. Berol.*), *Gray, Gen. B.* iii. App. p. 22 (1849); *Licht. Nomencl. Av.* p. 76 (1854); *Bp. Consp. Volucr. Zygod.* p. 9, no. 155 (1854); *Scl. P. Z. S.* 1859, p. 388; *id. Cat. Amer. B.* p. 339, no. 2024 (1862); *Cab. & Heine, Mus. Hein.* iv. p. 161 (1863); *Scl. P. Z. S.* 1864, p. 177; *Gray, List Picid. Brit. Mus.* p. 104 (1868); *id. Hand-l. B.* ii. p. 198, no. 8775 (1870); *Scl. & Salv. Nomencl. Av. Neotr.* p. 100 (1873); *Lawr. Bull. U. S. Nat. Mus.* no. 4, 1876, p. 35.

Chloronerpes yucatanensis (*non Cabot*), *Scl. P. Z. S.* 1856, p. 307, 1859, p. 367.

* I cannot see to which species *Chrysopicus perspicillatus* of Malherbe (Picidæ, ii. p. 176) ought to be referred. The description given agrees with *C. æruginosus*, but the measurements belong to a much smaller species, and the habitat (Colombia, Trinidad, &c.) is not that of the present bird, which is confined to Mexico. In Malherbe's plate cxiv, figs. 1 ♂, 2 ♀ appear to have been taken from *C. æruginosus*, but the face and neck differ entirely from those parts in this or indeed any *Chloronerpes* known to me.

Chrysopicus æruginosus, *Malh. Picidæ*, ii. p. 171, pl. xc. figs. 1, 2, ♂ ♀ (1862).

Chloronerpes yucatensis (*non Cabot*), *Cabanis, J. f. O.* 1862, p. 321.

Adult male. Back, scapulars, rump, and upper tail-coverts olive, the rump and upper tail-coverts crossed by yellow bars more or less distinct; wing-coverts and outer webs of all the quills brownish golden olive, the inner webs browner and margined with white or yellowish white on the basal portion; shafts brownish yellow; central tail-feathers black with olive bases, the lateral ones brown tinged with olive; shafts of central pair of feathers black, the remainder brown; nasal plumes, forehead, and crown dusky slate-grey, the outer edge of the crown, together with the occiput, nape, and malar stripe crimson; anterior part of face pale buff, the hinder part dull white finely streaked with dusky black; chin and throat white, striped with blackish olive; side of the neck, fore neck, and entire underparts and under tail-coverts deep or blackish olive, the feathers tipped with yellow, and having varied markings of yellowish white or yellow, those of the side of the neck and fore neck being irregular and transverse, those of the chest and breast having more or less hastate markings, the remaining underparts distinctly barred, and the under tail-coverts with bars and V-shaped markings; under wing-coverts and axillaries pale golden transversely spotted with olive. Total length 8·7 inches, culmen 1·15, wing 5·05, tail 3·2, tarsus 0·95; toes (without claws)—outer anterior 0·76, outer posterior 0·76, inner anterior 0·53, inner posterior 0·38.

Adult female. Has the malar region striped black and white, and the crown is not bordered with red. Total length 8·7 inches, culmen 0·95, wing 5·05, tail 3·35, tarsus 0·9.

Hab. Southern and Eastern Mexico, north to Sierra Madre above Ciudad Victoria, Tamaulipas, and south into Oaxaca, Tehuantepec, and Chiapas.

a. ♂ ad. st.	Mexico.	Purchased.
b, c. ♂ ad., ♂ imm. sk.	Mexico (*de Oca*).	Tweeddale Coll.
d, e, f. ♂ ad.; *g.* ♀ ad. sk.	Sierra Madre, above Ciudad Victoria, Tamaulipas, April, May (*W. B. Richardson*).	Salvin-Godman Coll.
h. ♂ ad.; *i, k.* ♀ ad.; *l.* ♀ imm. sk.	Tampico, Mexico, Feb., June (*W. B. Richardson*).	Salvin-Godman Coll.
m. ♂ ad. st.	Cordova, Mexico.	M. Sallé [C.].
n. ♀ ad. sk.	Cordova.	M. Sallé [C.].
o. ♂ imm. sk.	Near the city of Mexico (*G. H. White*).	Salvin-Godman Coll.
p. ♂ ad.; *q.* ♂ imm.; *r, s.* ♀ ad. sk.	Jalapa, Jan., Feb., May, June (*F. D. G.*).	Salvin-Godman Coll
t. u. ♂ ♀ ad. sk.	Jalapa (*de Oca*).	Sclater Coll.
v. ♂ ad. sk.	Atoyac, Mexico, May (*D. W. S.*).	Salvin-Godman Coll.
w. ♀ ad. sk.	Orizaba, Vera Cruz, March.	Salvin-Godman Coll.
x. ♂ ad. sk.	Coatepec, Vera Cruz, Aug.	Salvin-Godman Coll.

12. Chloronerpes auricularis.

Chloronerpes auricularis, *Salv. & Godm. Ibis*, 1889, p. 381.

Adult male. Resembles *C. æruginosus*, but differs in having the whole of the occiput and nape, as well as the crown, leaden or slaty grey, devoid of red, this colour being confined to the malar stripe which is deep crimson; the ear-coverts barred with dusky instead of being striped; the lower rump-feathers and the upper tail-coverts deep olive clearly and narrowly barred with pale yellow or yellowish white; the shafts of the quills yellowish brown, not yellow; the dimensions are also considerably less. Total length 8 inches, culmen 0·97, wing 4·65, tail 2·7, tarsus 0·82; toes (without claws)—outer anterior 0·67, outer posterior 0·63, inner anterior 0·48, inner posterior 0·32.

This species is much more closely allied to *C. æruginosus* than to *C. yucatanensis*, although it bears some resemblance to the latter species in its barred rump and upper tail-coverts, but in *C. æruginosus* examples are found in which these parts are decidedly barred. The ground of the face in the present species is white as in *C. æruginosus*, whereas in the Guatemalan species it is brownish buff.

Hab. State of Guerrero, Mexico.

a. ♂ ad. Xantipa, State of Guerrero, Mexico, July (*Mrs. H. H. Smith*). Salvin-Godman Coll. (Type of species.)

13. Chloronerpes godmani.

Adult female. Resembles *C. auricularis* (the male only of which is known), but differs in having the entire orbital region and ear-coverts, as well as the lores, pale brownish buff, the posterior ear-coverts having dusky longitudinal stripes; the entire top of the head and the nape of a much paler slate-grey; the chin and upper throat whiter; the malar region dusky, with indistinct dingy white spots (a character which will probably be shared by the female *C. auricularis*). In the present species the inner primaries have an indistinct trace of yellow marginal spots on the outer webs; the central tail-feathers are browner, and have the apex margined with dull golden yellow, but this may prove not to be a specific character. The type (♀) of this species (like the type (♂) of *C. auricularis*) may be readily distinguished from both sexes of its allies *C. æruginosus* and *C. rubiginosus* by the entire absence of red on the p of the head. Total length 7·85 inches, culmen 1, wing 4·7, tail 2·95, tarsus 0·82; toes (without claws)—outer anterior 0·65, outer posterior 0·65, inner anterior 0·52, inner posterior 0·23.

Hab. Jalisco, Mexico.

a. ♀ ad. Hacienda San Marcos, Jalisco, Mexico, 5200 feet, May 13, 1889 (*W. Lloyd*). Salvin-Godman Coll. (Type of species.)

14. Chloronerpes yucatanensis.

Picus yucatensis, *Cabot, Bost. Journ. Nat. Hist.* 1845, p. 92.
Picus yucatacensis, *Gray, Gen. B.* iii. App. p. 21 (1849).
Chrysoptilus canipileus (*non D'Orb.*), *Sclat. P. Z. S.* 1855, p. 161.
Chloronerpes yucatanensis, *Moore, P. Z. S.* 1859, p. 60; *Sclat. & Salv. Ibis*, 1859, p. 136; *id. op. cit.* 1860, p. 44; *Sclat. Cat. Amer. B.* p. 339, no. 2025 (1862); *Cab. J. f. O.* 1862, p. 321; *Cab. & Heine, Mus. Hein.* iv. p. 161 (1863), pt.; *Gray, List Picid. Brit. Mus.* p. 104 (1868), pt.; *id. Hand-l. B.* ii. p. 198, no. 8777 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 100 (1873); *Salv. Cat. Strickl. Coll.* p. 396, no. 1936 (1882); *Zeled. Cat. Av. Costa Rica*, 1882, p. 23, no. 488; *Boucard, P. Z. S.* 1883, p. 452; *Zeled. Proc. U. S. Nat. Mus.* 1885, p. 111.
Chloronerpes uropygialis, *Cab. J. f. O.* 1862, pp. 321, 322.
Chloronerpes canipileus (*non D'Orb.*), *Sclat. Cat. Amer. B.* p. 339, no. 2027 (1862); *Gray, List Picid. Brit. Mus.* p. 104 (1868), pt.; *id. Hand-l. B.* ii. p. 198, no. 8776 (1870), pt.; *Sclat. P. Z. S.* 1870, p. 212; *id. & Salv. Nomencl. Av. Neotr.* p. 100 (1873), pt.
Chrysopicus rubiginosus (pt.), *Malh. Picidæ*, ii. p. 174, text only (1862).
Picus yucatanensis, *Sundev. Consp. Av. Picin.* p. 70 (1866); *Gieb. Thes. Orn.* iii. p. 186 (1876).
Chloronerpes yucatensis, *Lawr. Ann. Lyc. Nat. Hist. N. York*, 1868, p. 131.
Chloronerpes rubiginosus (*non Swains.*), *Wyatt, Ibis*, 1871, p. 380.

Adult male. Back and scapulars olive, slightly rusty; rump and upper tail-coverts dusky olive narrowly barred with yellow; wing-coverts rusty olive; bastard-wing and primary-coverts dusky, externally olive; outer webs of quills brownish or rusty olive, the inner webs blackish brown, the basal margin of these being yellowish white; shafts brownish yellow; tail brownish black, shading into umber-brown on the lateral feathers, the central feathers more or less olive-brown at the base, dwarf feather olive; shafts of central feathers blackish brown, yellow at the base, those of the outer feathers more or less yellow; nasal plumes black; forehead, crown, and occiput dusky leaden grey, the outer edge of these, as well as the nape, being crimson; lores and face dingy buff, the posterior portion of the face (not including the ear-coverts) barred with blackish; malar stripe crimson; chin and throat white, the upper half striped, the lower half barred with black; fore neck, sides of the neck, and the chest blackish olive, the feathers having yellowish tips and being crossed by narrow white bars; the remainder of the under surface of the body and the under tail-coverts barred dusky olive and pale yellow; under wing-coverts golden buff with faint dusky bars; axillaries yellow barred with dusky olive; underside of quills and of lateral tail-feathers glossed with golden; the underside of the shafts golden yellow. Total length 8·3 inches, culmen 1·05, wing 4·65, tail 2·8, tarsus 0·8; toes (without claws)—outer anterior 0·72, outer posterior 0·73, inner anterior 0·55, inner posterior 0·36.

Adult female. Differs from the adult male in wanting the crimson on the malar region, this being white striped with black; also in not

having the forehead, crown, and occiput bordered with crimson, this colour being confined to the nuchal band. Total length 8·3 inches, culmen 1, wing 4·8, tail 2·75, tarsus 0·8.

Examples from Colombia and Ecuador have the rump and upper tail-coverts very clearly barred with yellow, and the males assume the red crown. Bogota specimens are large and rusty above, and approach very closely to *C. gularis* from Antioquia; the Ecuador bird is of considerably smaller dimensions.

Hab. Throughout Central America as far as Teapa, Southern Mexico, and south into U.S. Colombia to Bogota, and entering Venezuela; on the West of the Andes, south to Babahoyo, Ecuador.

a, *b*. ♂ ♀ ad.; *c*. ♂ imm. sk.	Teapa, Mexico (*Mrs. H. H. Smith*).	Salvin-Godman Coll.
d. ♂ ad.; *e*. ♀ imm. sk.	Peto, Yucatan (*G. F. Gaumer*).	Salvin-Godman Coll.
f. ♂ ad. sk.	Orange Walk, British Honduras, Dec. (*G. F. Gaumer*).	Salvin-Godman Coll.
g, *h*. ♂ ♀ ad. sk.	Southern Pine Ridge, Brit. Honduras, April (*F. Blancaneaux*).	Salvin-Godman Coll.
i, *k*. ♂ ad.; *l*. ♀ imm. sk.	Guatemala.	Tweeddale Coll.
m, *n*. ♂ ♀ ad.; *o*. ♀ imm. sk.	Dueñas, Guatemala (*O. S.*).	Salvin-Godman Coll.
p, *q*. ♂ ad. sk.	Coban, Guatemala (*O. S.*).	Sclater Coll.
r. ♂ ad. sk.	Coban, Nov. (*O. S.*).	Salvin-Godman Coll.
s. ♀ ad. sk.	Tactic, Guatemala, Nov. (*O. S.*).	Salvin-Godman Coll.
t. ♀ imm. sk.	Chisec, Guatemala (*O. S.*).	Salvin-Godman Coll.
u. ♀ ad. sk.	Barranco Hondo, Guatemala, Oct. (*O. S.*).	Salvin-Godman Coll.
v, *w*. ♂ ad. sk.	Savana Grande, Guatemala (*O. S.*).	Salvin-Godman Coll.
x. ♂ ad. sk.	Savana Grande (*O. S.*).	Tweeddale Coll.
y. ♀ ad. sk.	Volcan de Agua, Guatemala, Nov. (*O. S.*).	Salvin-Godman Coll.
z. ♂ imm.; *a'*. ♀ ad. sk.	Costa Rica (*J. Carmiol*).	Salvin-Godman Coll.
b', *c'*. ♂ ad.; *d'*. ♀ imm.; *e'*, *f'*. Juv. sk.	Costa Rica.	Tweeddale Coll.
g', *h'*. ♂ ♀ ad. sk.	Volcan de Chiriqui, Veragua (*E. Arcé*).	Salvin-Godman Coll.
i', *k'*. ♂ ♀ ad. sk.	Cordillera del Chucu, Veragua (*E. Arcé*).	Salvin-Godman Coll.
l'. ♂ ad. sk.	Panama.	Tweeddale Coll.
m'. Ad. sk.	Venezuela.	Sclater Coll.
n' ♀ ad. sk.	Caraccas, Venezuela.	Purchased.
o'. ♀ ad. sk.	U.S. Colombia.	Tweeddale Coll.
p'. ♂ ad. sk.	Bogota.	Salvin-Godman Coll.
q'. ♀ ad.; *r'*, *s'*. ♂ ♀ imm. sk.	Bogota.	Sclater Coll.
t'. ♀ ad. sk.	Esmeraldas, Ecuador (*L. Fraser*).	Sclater Coll.

u'. ♂ ad. sk.	Babahoyo, Ecuador (*L. Fraser*).	Sclater Coll.
v'. ♂ imm. sk.	Balzar Mts., Ecuador (*Illingworth*).	Salvin-Godman Coll.

15. Chloronerpes gularis.

Chloronerpes rubiginosus (*non Swains.*), *Sclat. & Salv. P. Z. S.* 1879, p. 533.

Chloronerpes gularis, *Harg. Ibis*, 1889, p. 230.

Adult male. Resembles *C. rubiginosus*, but differs in having the whole of the rump and upper tail-coverts golden yellow barred with dusky olive; the size is also larger. The present species resembles *C. yucatanensis* in having the rump and upper tail-coverts barred, but in the former the ground-colour is yellow. It differs, however, in having the chin and throat deep black clearly spotted (not striped) with white. *C. gularis* has the back, scapulars, and wing-coverts very rusty in colour; the forehead, crown, occiput, nape, and malar stripe crimson, this colour even spreading on to the feathers of the hind neck; the lateral tail-feathers have faint dusky bars. Total length 9·5 inches, culmen 1·15, wing 4·9, tail 3·1, tarsus 0·85; toes (without claws)—outer anterior 0·75, outer posterior 0·7, inner anterior 0·53, inner posterior 0·35.

Adult female. Differs from the adult male in having the malar region black spotted with dull yellowish white. Total length 9·3 inches, culmen 1·08, wing 5·2, tail 3·2, tarsus 0·9.

Immature female. Has the malar region and behind it, together with the chin and throat, uniform black; the feathers of the forehead and crown, as well as those of the occiput and nape, are tipped with red; the ear-coverts are of a more smoky olivaceous colour than in the adult, which it otherwise resembles.

Hab. Antioquia.

a. ♂ ad.; *b*. ♀ imm. sk.	Santa Elena, Antioquia, U. S. Colombia (*T. K. Salmon*).	Salvin-Godman Coll.
c. ♀ ad. sk.	Retiro, Antioquia (*T. K. Salmon*).	Salvin-Godman Coll.
d. ♂ ad. sk.	Retiro, Antioquia (*T. K. Salmon*).	Sclater Coll.

16. Chloronerpes rubiginosus.

Picus rubiginosus, *Swains. Zool. Illustr.* 1st ser. i. pl. xiv. (1820–21); *Wagl. Syst. Av.* Picus, sp. 55 (1827); *Less. Traité*, i. p. 227 (1831); *Sundev. Consp. Av. Picin.* p. 69 (1866); *Finsch, P. Z. S.* 1870, p. 782.

Chloronerpes rubiginosus, *Swains. Classif. B.* ii. p. 308 (1837); *Cab. in Schomb. Reis. Guian.* iii. p. 715 (1848); *Bp. Consp. Gen. Av.* i. p. 118 (1850); *id. Consp. Volucr. Zygod.* p. 9, no. 154 (1854); *Reichenb. Scans. Picinæ*, p. 352, no. 807, pl. dcxxiv. figs. 4156–57 (1854); *Sclat. P. Z. S.* 1860, p. 286; *Cab. J. f. O.* 1862, p. 322; *Sclat. Cat. Amer. B.* p. 339, no. 2026 (1862); *Cab. & Heine, Mus. Hein.* iv.

p. 161 (1863); *Cav.-Tayl. Ibis*, 1864, p. 93; *Léot. Ois. Trinid.* p. 339 (1866); *Sclat. & Salv. P. Z. S.* 1868, p. 169; *Gray, List Picid. Brit. Mus.* p. 103 (1868); *id. Hand-l. B.* ii. p. 198, no. 8774 (1870); *Sclat. & Salv. P. Z. S.* 1870, p. 782; *iid. Nomencl. Av. Neotr.* p. 100 (1873); *iid. P. Z. S.* 1875, p. 237; *iid. op. cit.* 1879, p. 632; *Berl. Ibis*, 1880, p. 114; *Salv. Cat. Strickl. Coll.* p. 396, no. 1937 (1882); *id. Ibis*, 1886, p. 59.

Picus campileus, *D'Orb. Voy. Amér. Mérid.* iv. p. 379, pl. lxiii. fig. 2 (1835–44); *Tschudi, Consp. Av. Rep. Peruan. in Arch. für Natury.* 1844, p. 303; *Cab. in Tschud. Faun. Peruan., Aves*, pp. 43, 268 (1845–46); *Sundev. Consp. Av. Picin.* p. 69 (1866).

Chrysoptilus canipileus, *Gray, Gen. B.* iii. App. p. 22 (1849); *Bp. Consp. Gen. Av.* i. p. 122 (1850).

Chloronerpes warscewiczii, *Reichenb. Scans. Picinæ*, p. 430, no. 1015 (808 *b*), pl. dclxxx. figs. 4491–92, ♀ ♀ (1854).

Colaptes canipileus, *Reichenb. Scans. Picinæ*, p. 415, no. 978, pl. dclxviii. fig. 4432, ♂ (1854).

Chrysopicus canipileus, *Bp. Consp. Volucr. Zygod.* p. 9, no. 143 (1854); *Malh. Picidæ*, ii. p. 173, pl. xc. figs. 4, 5, 6, ♂ ♀ ♂ (1862).

Chrysopicus rubiginosus, *Malh. Picidæ*, ii. pl. lxxxix. figs. 4, 5, ♂ ♀ (not text, ii. p. 174) (1862).

Chloronerpes canipileus, *Cab. J. f. O.* 1862, p. 321; *id. & Heine, Mus. Hein.* iv. p. 162 (1863); *Gray, List Picid. Brit. Mus.* p. 104 (1868) pt.; *id. Hand-l. B.* ii. p. 198, no. 8776 (1870) pt.; *Sclat. & Salv. Nomencl. Av. Neotr.* p. 100 (1873) pt.; *Tacz. P. Z. S.* 1874, p. 546, 1877, p. 327, 1879, p. 244; *id. & Berl. op. cit.* 1883, p. 571; *Tacz. Orn. Pérou*, iii. p. 82 (1886).

Chloronerpes tucumanus, *Cab. J. f. O.* 1883, p. 103; *Sclat. & Huds. Arg. Orn.* ii. p. 21 (1889).

Adult male. Back, scapulars, and rump rusty olive; upper tail-coverts dusky olive, narrowly barred with yellow; wing-coverts like the back, but duller in colour; bastard-wing and primary-coverts blackish brown, externally brownish olive; outer webs of quills brownish olive, the inner webs blackish brown, more or less margined with yellowish white; shafts clear brown; tail black shading into umber-brown on the lateral feathers, these having the webs more or less crossed by paler bars, the central feathers margined with olive at the base; dwarf feather olive, the tip darker, with narrow yellow bars on the outer web; central tail-shafts black with greyish-brown bases, those of the lateral feathers brown, and of the dwarf feather yellow; nasal plumes dusky black; forehead and crown dusky leaden grey, the outer edge, as well as the occiput and nape, crimson; lores and face buffy white, the ear-coverts slightly darker; a broad malar stripe of crimson; chin and throat white, the feathers having a black central stripe; fore neck black spotted with white; sides of the neck and the chest yellowish white, the former narrowly, the latter broadly barred with olive-black; the remainder of the underparts and the under tail-coverts bright yellow barred with dusky olive, the bars being fainter on the abdomen, vent, and under tail-coverts; under wing-coverts pale golden buff, the axillaries yellow; underside of quill-shafts bright yellow, the underside of the tail-shafts duller, those of the central feathers

having black tips. Total length 8·5 inches, culmen 1·05, wing 4·68, tail 2·95, tarsus 0·85; toes (without claws)—outer anterior 0·66, outer posterior 0·7, inner anterior 0·53, inner posterior 0·32.

Adult female. Wants the crimson on the outer edge of the forehead and crown, and also the red malar stripe, the latter being replaced by black striped with white. In other respects resembles the adult of the opposite sex. Total length 8·3 inches, culmen 1, wing 4·35, tail 2·85, tarsus 0·7.

Immature birds have the anterior half of the face whiter, the posterior half barred with blackish, the ear-coverts being dusky and faintly barred with a darker shade; the side of the neck is whiter and barred with dusky black; the general colour above is duller.

Young birds are much duller in colour both above and below, and have the face whiter; the male has the feathers of the malar stripe more or less tipped with dull crimson, the ground being black; the outer edge of the forehead and crown with scarcely any indication of red; the female has the malar stripe uniform black; the chin and throat are more spotted than striped with white.

Examples of the present species from Tobago are more rusty brown on the sides of the neck, fore neck, and chest, and sometimes have very faint dusky olive bars on the under wing-coverts and axillaries. Trinidad specimens run smaller, and in Brazil the species diminishes considerably in size, without presenting any important points of difference. Specimens from Peru and Bolivia are very yellow below, and have a strong tendency to lose the bars on the abdomen, flanks, thighs, and under tail-coverts. Tucuman examples are dull-coloured birds completely barred below, and are identical with specimens from British Guiana. Southern males are inclined to assume a red crown as well as their constantly red occiput, but I have never yet seen this in examples from Venezuela or Guiana.

Hab. Guiana, Venezuela, and in the islands of Trinidad and Tobago; Brazil north of the Amazon, and extending south into Peru, Bolivia, and Tucuman.

a, *b*. ♂ ad. sk.	Trinidad.	Zoological Society.
c. ♂ ad. sk.	Trinidad.	Gould Coll.
d. ♂ imm.; *e*. ♀ ad. sk.	Trinidad.	Sclater Coll.
f. ♀ ad. sk.	Venezuela.	Sclater Coll.
g. ♂ imm. sk.	N. Andalusia, Venezuela (*A. Goering*).	Tweeddale Coll.
h. ♂ ad. sk.	Venezuela.	Tweeddale Coll.
i. ♀ ad. sk.	Caraccas, Venezuela, Oct. (*A. Goering*).	Salvin-Godman Coll.
k. ♀ ad. sk.	Guiana.	Sclater Coll.
l. ♂ imm.; *m*. ♀ ad. sk.	Roraima, British Guiana, Jan. (*H. Whitely*).	Salvin-Godman Coll.
n. ♂ imm. sk.	Bartica Grove, British Guiana, Jan. (*H. Whitely*).	Salvin-Godman Coll.
o, *p*. ♂ ♀ imm. sk.	Merume Mts., British Guiana, June, July (*H. Whitely*).	Salvin-Godman Coll.

q. Juv. sk.	Cayenne.	Purchased.
r. ♂ ad. sk.	Mantos, Peru (*Jelski*).	Sclater Coll.
s. ♀ ad. sk.	Tilotilo, Prov. Yungas, Bolivia (*C. Buckley*).	Salvin-Godman Coll.
t, *u*. ♂ ♀ ad. sk.	Tucuman, Arg. Rep. (*Schuelz*).	Sclater Coll.
v. Juv. sk.		Tweeddale Coll.

17. Chloronerpes striatus.

Le Pic Rayé de Saint Domingue, *Briss. Orn.* iv. p. 65, pl. iv. fig. 1, ♂ (1760); *Buff. Hist. Nat. Ois.* vii. p. 371 (1783); *Daubent. Pl. Enl.* 281, ♂ ad.

Le Petit Pic Rayé de Saint Domingue, *Briss. Orn.* iv. p. 67, pl. iii. fig. 2, ♀ (1760).

Picus striatus, *Müll. Syst. Nat. Suppl.* p. 91 (1776); *Bodd. Tabl. Pl. Enl.* p. 17, no. 281 ♂; p. 37, no. 614 ♀ (1783); *Gm. Syst. Nat.* i. p. 427, no. 25 ♂, var. *β*. ♀ (1788); *Lath. Ind. Orn.* i. p. 238 (1790); *Vieill. Ois. Amér. Sept.* ii. p. 61, pl. cxiv., ♂ ad. (1807); *id. N. Dict. d'Hist. Nat.* xxvi. p. 90 (1818); *Bonn. & Vieill. Enc. Méth.* p. 1316 (1823); *Valenc. Dict. Sc. Nat.* xl. p. 173, ♀ (1826); *Wagl. Syst. Av.* Picus, sp. 40, ♂ ♀ (1827); *Drap. Dict. Class.* xiii. p. 505 (1828); *Bryant, Proc. Bost. Soc. Nat. Hist.* xi. p. 96 (1866); *Sundev. Consp. Av. Picin.* p. 52 (1866).

Rayed Woodpecker, *Lath. Gen. Syn.* ii. p. 587, ♂ (1782).

Rayed Woodpecker, var. A, *Lath. Gen. Syn.* ii. p. 588, ♀ (1782).

Centurus striatus, *Gray, Gen. B.* ii. p. 442 (1846); *Bp. Consp. Gen. Av.* i. p. 119, no. 4, ♀ (1850); *id. Consp. Volucr. Zygod.* p. 11, no. 216 (1854); *Reichenb. Handb. Scans. Picinæ*, p. 409, no. 960, pl. dclxiii. figs. 4404–4405, ♀ ♀ (1854); *Sallé, P. Z. S.* 1857, p. 234; *Gray, List Picid. Brit. Mus.* p. 102 (1868); *id. Hand-l. B.* ii. p. 197, no. 8766 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 100 (1873); *Ridgw. Proc. U.S. Nat. Mus.* 1881, p. 117; *Cory, Bull. Nutt. Orn. Club*, vi. p. 154 (1881); *id. B. Haiti and San Domingo*, p. 111, ♂ ♀, heads figured (1884); *Tristr. Ibis*, 1884, p. 168; *Cory, List B. W. Ind.* p. 20 (1885); *id. Auk*, iii. p. 378 (1886).

Zebrapicus striatus, *Malh. Picidæ*, ii. p. 231, pl. cvii. figs. 3 ♂, 4 ♀ (1862).

Adult male. Back, scapulars, and rump greenish yellow, the back and scapulars broadly barred with black, the rump with narrower black bars; upper tail-coverts crimson; wing-coverts black, with bars and transverse spots of yellow; outer webs of quills black spotted with yellow, the inner webs browner and spotted with white; shafts brownish black; tail nearly black, the lateral feathers browner and externally margined with brownish white; shafts almost black; nasal plumes, frontal band, face, chin, and throat dull ashy, browner posteriorly; crown, occiput, and nape crimson; hind neck like the back, and upon the side of the neck a large longitudinal patch of black, and in front of this a longitudinal patch of yellowish white; fore neck and chest brown, grading into yellowish olive on the under surface of the body, the under tail-coverts duller; under wing-coverts dull creamy or buffy white. Total length 9 inches, culmen 1·35, wing 4·55, tail 3·4, tarsus 1;

toes (without claws)—outer anterior 0·7, outer posterior 0·78, inner anterior 0·5, inner posterior 0·36.

Adult female. Resembles the adult male, but differs in having the crown uniform black. Total length 9 inches, culmen 1·2, wing 4·6, tail 2·95, tarsus 0·87.

The younger female has the crown black, with white hair-like shaft-streaks. Otherwise like the adult of the same sex.

Hab. Island of Haiti and San Domingo.

a, *b*. ♂ ♀ ad. st.	San Domingo.	Purchased.
c. ♂ ad. sk.	San Domingo.	Zoological Society.
d, *e*. ♂ ♀ ad. sk.	San Domingo.	Purchased.
f. ♀ imm. sk.	San Domingo, Jan. (*C. B. Cory*).	Sclater Coll.
g. ♂ ad.; *h*, *i*. ♀ imm. sk.	Puerto Plata, San Domingo, Jan., Nov., and Dec. (*C. B. Cory*).	Salvin-Godman Coll.
k. ♀ imm. sk.	Haiti, Feb. (*C. B. Cory*).	Sclater Coll.
l. ♀ imm. sk.	Haiti.	Salvin-Godman Coll.
m, *n*. ♀ imm. et juv. sk.	Haiti.	

6. CAMPOTHERA.

	Type.
Dendromus, *Swains. Classif. B.* ii. p. 307 (1837)	C. maculosa.
Campethera, *Gray, List Gen. Birds*, 1841, p. 70	C. maculosa.
Chrysopicos, *Malh. Mém. Acad. Metz*, 1848–49, p. 352	C. nubica.
Stictopicus, *Malh. Introd. Monogr. Picid.* p. liii (1861)	C. nivosa.
Ipagrus, *Cab. & Hein. Mus. Hein.* iv. p. 123 (1863)	C. bennetti.
Stictocraugus, *Cab. & Hein. Mus. Hein.* iv. p. 130 (1863)	C. nivosa.
Cnipotheres, *Cab. & Hein. Mus. Hein.* iv. p. 131 (1863)	C. caroli.

Range. Throughout the Ethiopian Region.

Key to the Species.

A. Back spotted or with yellowish transverse markings (not bars) in addition to the spots.
  a'. Throat uniform; underparts entirely covered with rounded spots of black.
    a''. Top of the head, occiput, and malar stripe crimson ..... *nubica* ♂ ad., p. 93.
    b''. Forehead and crown black, spotted with white, occiput (only) red; no red on malar region ..... *nubica* ♀ ad., p. 94.
  b'. Throat spotted with black.
    c''. Underparts entirely covered with rounded spots of black.
      a'''. Larger: length 8·5 inches, wing 4·25; rump and upper tail-coverts barred; tail narrowly barred.
        *a*⁴. Top of the head, occiput, and malar stripe red ..... *notata* ♂ ad., p. 95.

b^4. Top of the head blackish olive, spotted with white, occiput (only) red; no red on malar region ..... *notata* ♀ ad., p. 95.

b'''. Smaller: length 6·5 inches, wing 3·75; rump and upper tail-coverts spotted like the back; tail-feathers with marginal spots.

c^4. Top of the head, occiput, and nape scarlet ..... *malherbii* ♂ ad., p. 96.

d^4. Top of the head black spotted with white, occiput and nape (only) scarlet ..... *malherbii* ♀ ad., p. 96.

d''. Lower breast and abdomen, or the abdomen only, uniform, the remaining underparts spotted.

e'''. With no black stripe behind the eye; rump and upper tail-coverts with light shaft-spots on the yellow bars.

e^4. Top of the head, occiput, nape, and malar stripe red ..... *punctata* ♂ ad., p. 97.

f^4. Top of the head black, striped with white, occiput and nape (only) red; no red on malar region ..... *punctata* ♀ ad., p. 97.

d'''. With black stripe behind the eye; rump and upper tail-coverts barred and without spot.

g^4. Top of the head, occiput, nape, and malar stripe red ..... *balia* ♂ ad., p. 98.

h^4. Top of the head black, spotted with white, occiput and nape (only) red; no red on malar region ..... *balia* ♀ ad., p. 98.

c'. Throat striped with black.

e''. Top of the head *black*, spotted with white in the female.

e'''. Top of the head, occiput, nape, and malar stripe red ..... *abingdoni* ♂ ad., p. 99.

f'''. Occiput and nape (only) red; no red on malar region..... *abingdoni* ♀ ad., p. 99.

f''. Top of the head *olive*, spotted with white in the female.

g'''. Top of the head, occiput, nape, and malar stripe red ..... *mombassica* ♂ ad., p. 100.

h'''. Occiput and nape (only) red; no red on malar region ..... *mombassica* ♀ ad., p. 100.

d'. Throat black, spotted with white.

g''. Top of the head, occiput, nape, and malar stripe crimson ..... *smithii* ♂ ad., p. 101.

h''. Top of the head black, spotted with white, occiput and nape (only) red; no red on malar region ..... *smithii* ♀ ad., p. 101.

B. Back barred.

e'. Smaller: length 7·5 inches, wing 4·2; throat spotted with black ..... *cailliaudi* ♀ ad., p. 102.

f'. Larger: length 8·5 inches, wing 4·8; throat uniform.
i''. Rump and upper tail-coverts distinctly barred; underparts (except the abdomen) conspicuously spotted.
i'''. Chin and throat unicolorous with the underparts ..... *bennetti* ♂ ad., p. 103.
j'''. Chin and throat, anterior portion of the face, and the ear-coverts chestnut-brown ..... *bennetti* ♀ ad., p. 103.
j''. Rump and upper tail-coverts spotted; underparts with only a few minute spots on the sides of the chest and body, flanks, and thighs.
k'''. Chin and throat unicolorous with the underparts ..... *capricorni* ♂ ad., p. 104.
l'''. Chin and throat, region below the eye, also the ear-coverts deep chocolate-brown ..... *capricorni* ♀ ad., p. 104.

C. Back uniform.
g'. Barred below.
k''. Larger: length 6·7 inches, wing 3·9; chin and throat with somewhat rounded spots of black; (under wing-coverts uniform in young).
m'''. Crown and occiput red ..... *maculosa* ♂ ad., p. 105.
n'''. Occiput (only) red, the forehead and crown black, spotted with white ..... *maculosa* ♀ ad., p. 105.
l''. Smaller: length 6 inches, wing 3·7; chin and throat with transverse spots or bars of black.
o'''. Crown and occiput red ..... *permista* ♂ ad., p. 106.
p'''. Occiput (only) red, the top of the head olivaceous black, with yellowish spots ..... *permista* ♀ ad., p. 106.
q'''. Coronal and occipital feathers tipped with yellow ..... *permista* imm., p. 106.
h'. Spotted with fulvescent or buffy white below.
m''. With broad stripe of dark rufous or chocolate-brown on the side of the neck.
r'''. Coronal and occipital feathers tipped with dull red..... *caroli* ♂ ad., p. 107.
s'''. Crown and occiput blackish olive, the feathers not tipped with red ..... *caroli* ♀ ad., p. 107.
n''. With no rufous patch on the side of the neck.
t'''. With red nuchal band..... *nivosa* ♂ ad., p. 108.
u'''. With no red nuchal band ..... *nivosa* ♀ ad., p. 108.

1. Campothera nubica.

L'Épeiche de Nubie ondé et tacheté, *Buff. Hist. Nat. Ois.* vii. p. 66 (1780).

Pic tacheté de Nubie, *Daub. Pl. Enl.* no. 667.

Nubian Woodpecker, *Lath. Gen. Syn.* no. 23, vol. i. pt. 2, p. 576 (1782).

Picus nubicus, *Gm. Syst. Nat.* p. 439 (1788), ♀; *Lath. Ind. Orn.* i. p. 233 (1790); *Steph. Gen. Zool.* ix. pt. 1, p. 180 (1815); *Licht. Verz. Doubl.* p. 11 (1823), pt.; *Bonn. & Vieill. Enc. Méth.* iii. p. 1313 (1823), pt.; *Sundev. Consp. Av. Picin.* p. 67 (1866); *Blanf. Geol. & Zool. Abyss.* p. 305 (1870); *Finsch, Tr. Z. S.* vii. p. 283, no. 160 (1870); *Finsch & Hartl. Vög. Ostafr.* p. 508 (1870); *Heugl. Orn. N.O.-Afr.* p. 881 (1871); *Fisch. & Reichenb. J. f. O.* 1878, p. 253; *Pelz. Verhandl. k.-k. zool.-bot. Gesellsch.* 1882, p. 510; *Böhm, op. cit.* 1883, p. 168.

Picus æthiopicus, *Hempr. & Ehrenb. Symb. Phys.* i. fol. 2, p. 2 (1828), ♀; *Rüpp. Neue Wirb. Vög.* p. 59 (1835); *Dresser & Buanf. Ibis*, 1874, p. 336.

Picus notatus (pt.), *Wagl. Syst. Av.* Picus, sp. 35 (1827).

Dendromus æthiopicus, *Rüpp. Syst. Uebers.* 1845, p. 90, pl. xxxvi.; *Vierth. Naum.* 1852, p. 46; *Brehm, J. f. O.* 1855, p. 481; *Heugl. Syst. Uebers.* 1856, n. 487, p. 47; *id. J. f. O.* 1862, p. 37.

Campethera nubica, *Gray, Gen. B.* ii. p. 439 (1846); *Reichenb. Handb. Scans. Picinæ*, p. 423 (1854); *Gray, List Picid. Brit. Mus.* p. 82 (1868); *id. Hand-l. B.* ii. p. 193, no. 8698 (1870); *Sharpe, Cat. Afr. B.* p. 17 (1871); *Antin. & Salvad. Viagg. Bogos*, p. 45 (1873).

Campethera æthiopica, *Gray, Gen. B.* sp. 7 (1846); *Reichenb. Scans. Picinæ*, p. 422, pl. dclxxii. figs. 4449–50 (1854).

Dendrobates æthiopicus, *Bp. Consp. Gen. Av.* i. p. 123 (1850); *Sclat. Rep. Coll. Somali Country*, 1860, p. 10.

Chrysopicus nubicus, *Malh. Picidæ*, ii. p. 159, pl. xciii. figs. 2, 3, 5 (1862).

Ipagrus nubicus, *Cab. & Heine, Mus. Hein.* iv. p. 125 (1863).

Dendrobates nubicus, *Antin. Cat. descr. Ucc.* 1864, p. 80; *Salvad. Atti R. Accad. Torino*, 1870, p. 743.

Campothera nubica, *Hargitt, Ibis*, 1883, p. 451; *Shelley, op. cit.* 1885, p. 393; *id. P. Z. S.* 1889, p. 356.

Stictopicus nubicus, *Salvad. Ann. Mus. Civ. Stor. Nat. Genov.* 1884, p. 88; *Gigl. op. cit.* 1888, p. 47; *Salvad. t. c.* p. 211.

Adult male. Back, scapulars, and wing-coverts blackish olive, spotted and transversely varied with yellowish white, the spots more or less diamond-shaped; rump and upper tail-coverts blackish olive barred with yellowish white; quills brown, slightly olive externally, the outer webs spotted with buffy white, the inner webs having pure white spots; shafts yellow; tail brown, washed with olive and barred with golden buff, the tips of the feathers and also the shafts golden yellow; forehead, crown, occiput, nape, and malar stripe crimson; nasal plumes, lores, face, chin, and throat buffy white, the ear-coverts finely striped with black; side of the neck white, the fore neck and entire underparts and under tail-coverts yellowish white, the whole being covered with rounded spots of black; under wing-coverts buffy white or yellowish, with rounded black spots: "bill dusky, paler beneath; iris pink; legs greenish

horny" (*W. T. Blanford*). Total length 8 inches, culmen 1·2, wing 4·3, tail 2·4, tarsus 0·83; toes (without claws)—outer anterior 0·7, outer posterior 0·65, inner anterior 0·5, inner posterior 0·3.

Adult female. Has the forehead and crown black spotted with white, the occiput alone being crimson; the malar stripe black, the feathers having greyish tips. Otherwise like the male. Total length 7·3 inches, culmen 1·1, wing 4·3; tail 2·5, tarsus 0·8.

Young. In the first stage both sexes have the top of the head uniform dusky black, with a scarlet band on the occiput, a few minute rounded or stripe-like specks of white next appear; the female then assumes the large rounded spots of white on the forehead and crown, and these parts in the male lose the white specks and become red.

Hab. Southern Nubia, Abyssinia, and the Egyptian Soudan, into the Somali Country, and South, probably almost to the Equator.

a. ♀ juv. sk.	Nubia.	Sharpe Coll.
b, *c.* ♂ ♀ ad.; *d.* ♂ juv. sk.	Malti, Bogos Land (*Esler*).	Sharpe Coll.
e. ♀ ad. sk.	Ain, Bogos Land, July 6, 1868 (*W. Jesse*).	Salvin-Godman Coll.
f. ♀ ad. sk.	Abyssinia.	Sharpe Coll.
g, *h.* ♂ ad. sk.	Abyssinia (*Esler*).	Shelley Coll.
i. ♂ ad. sk.	Abyssinia.	India Museum.
k. ♀ ad. sk.	Abyssinia.	Tweeddale Coll.
l. ♀ ad. sk.	Undel Wells, May 30, 1868.	W. T. Blanford, Esq. [C.].
m. ♂ juv. sk.	Undel Wells, May 27, 1868 (*W. Jesse*).	Sharpe Coll.
n. ♀ ad.; *o.* ♀ imm. sk.	Undel Wells, May 27, 1868 (*W. Jesse*).	Tweeddale Coll.
p. ♀ juv. sk.	Anseba (*Esler*).	Shelley Coll.
q. ♂ ad. sk.	Anseba Valley, Aug. 1, 1868.	W. T. Blanford, Esq. [C.].
r. ♀ imm. sk.	Waliko.	W. T. Blanford, Esq. [C.].
s. ♀ ad. sk.	Bejook, July 18, 1868 (*W. Jesse*).	Tweeddale Coll.
t. ♂ ad. sk.	Gonfallon, Aug. 7, 1868 (*W. Jesse*).	Tweeddale Coll.
u. ♂ ad. sk.	Shoa (*Antinori*).	Shelley Coll.
v. ♀ ad. sk.	Butai, Sennar, Feb. (*V. Müller*).	Shelley Coll.
w. ♂ ad. sk.	Khartoum.	Sharpe Coll.
x. ♀ juv. sk.	Redjaf, Jan. 17, 1884.	Emin Pasha [P.].
y. ♂ ad.; *z*, *a'.* ♀ ad. sk.	Lamu *.	F. J. Jackson, Esq. [P.].
b'. ♀ imm. sk.	Useri River.	H. C. V. Hunter, Esq. [P.].
c'. ♂ imm. sk.	Malimboa, June 1877.	Dr. Hildebrandt [C.].
d'. ♀ ad. sk.	Tkariga, Ukamba, June 1877.	Dr. Hildebrandt [C.].

* These specimens are conspicuously white about the head and neck, the spots upon the head of the female being unusually large.

2. Campothera notata.

Le Pic tigré, *Levaill. Ois. d'Afr.* vi. p. 14, pl. ccl. (1808), ♂; *Sundev. Krit. Framst. Levaill.* p. 52, no. 250 (1857).
Picus notatus, *Licht. Verz. Doubl.* 1823, p. 11; *Wagl. Syst. Av.* Picus, sp. 35 nec ♀ (1827); *id. Isis*, 1829, p. 511; *Sundev. Consp. Av. Picin.* p. 66, no. 191 (1866).
Picus nubicus, *Bonn. & Vieill. Enc. Méth.* iii. p. 1313 (1823), pt.
Campethera nubica, *Gray, Gen. B.* ii. p. 439 (1846), pt.; *Layard, B. S. Afr.* p. 17 (1871).
Dendrobates notatus, *Bp. Consp. Gen. Av.* i. p. 123 (1850).
Campethera notata, *Reichenb. Scans. Picinæ*, p. 423, pl. dclxxiii. figs. 4453–54 (1854); *Gray, List Picid. Brit. Mus.* p. 82 (1868); *id. Hand-l. B.* ii. p. 193, no. 8697 (1870); *Sharpe, Cat. Afr. B.* p. 17 (1871); *id. ed. Layard's B. S. Afr.* p. 186 (1875).
Dendromus notatus, *Bp. Consp. Volucr. Zygod.* p. 9 (1854).
Chrysopicus notatus, *Malh. Picidæ*, ii. p. 162, pl. xcv. figs. 4, 5 (1862).
Ipagrus notatus, *Cab. & Heine, Mus. Hein.* iv. p. 127 (1863).
Campethera notata, *Salvin, Cat. Strickl. Coll.* p. 393 (1882); *Hargitt, Ibis*, 1883, p. 461.

Adult male. Back, scapulars, and wing-coverts olive, minutely spotted with dull white, the spots somewhat diamond-shaped on the upper parts; rump and upper tail-coverts olive barred with yellowish white; quills brown, the outer webs of the secondaries and of the primaries at the base olive, the outer webs of the primaries with rounded spots of dull white, the secondaries having bar-like spots on the outer webs, inner webs of all the quills largely spotted with pure white; shafts light brown, yellowish on the inner feathers; tail-feathers brown with golden tips, narrowly barred with buffy white, the bars not reaching to the shaft, the central feathers washed with olive; shafts brownish yellow; nasal plumes blackish brown; feathers of the forehead and crown crimson at the tip, blackish olive at the base, the occiput bright crimson; hind neck olive barred with dull white; malar stripe red; sides of the face and neck, and from the chin to the under tail-coverts (both inclusive), dull white, more or less fulvescent below, the whole being spotted with black, the spots on the underparts very large and rounded or heart-shaped; under wing-coverts and axillaries yellowish white spotted with black: "iris hazel" (*T. C. Atmore*). Total length 8·5 inches, culmen 1·1, wing 4·25, tail 2·85, tarsus 0·9; toes (without claws)—outer anterior 0·6, outer posterior 0·6, inner anterior 0·4, inner posterior 0·25.

Adult female. Differs from the adult male in having the forehead and crown black spotted with dull white, and also in the absence of red on the malar region, this being yellowish white, barred and spotted with black. Total length 8·1 inches, culmen 0·97, wing 4·25, tail 3, tarsus 0·8.

Hab. Eastern part of Cape Colony, from Knysna north to Colesberg, and east into the Transkei.

a. ♂ ad. sk.	South Africa.	Purchased.
b. ♀ ad. sk.	South Africa.	J. Rocke, Esq. [P.].

c. ♂ ad. sk.	South Africa.	Gould Coll.
d. ♂ ad. sk.	Cape Colony.	F. Thackeray, Esq. [P.].
e. ♂ ad. sk.	George, S. Africa (*T. Atmore*).	Sharpe Coll.
f. ♀ ad. sk.	Eland's Post, June 1870 (*T. Atmore*).	Sharpe Coll.
g. ♂ ad. sk.	Knysna.	Sharpe Coll.
h. ♂ ad. sk.	Knysna, Feb. 3, 1866 (*C. J. Andersson*).	Tweeddale Coll.

3. Campothera malherbii.

Chrysopicus malherbei, *Cass. Journ. Acad. Philad.* 1863, p. 459, pl. li. fig. 3, ♂ ; *id. Proc. Acad. Philad.* 1863, p. 198.
Picus imberbis, *Sundev. Consp. Av. Picin.* p. 68 (1866); *Finsch & Hartl. Vög. Ostafr.* p. 511 (1870); *Fisch. & Reichenow, J. f. O.* 1878, p. 253; *Böhm, op. cit.* 1883, p. 168.
Campethera malherbei, *Gray, List Picid. Brit. Mus.* p. 83 (1868); *id. Hand-l. B.* ii. p. 193, no. 8702 (1870).
Dendrobates hartlaubi (*non Malh.*), *v. d. Decken, Reisen*, i. p. 60 (1869).
Campothera imberbis, *Cab. in v. d. Decken, Reisen*, iii. p. 39 (1869).
Campothera malherbii, *Hargitt, Ibis*, 1883, p. 466.

Adult female. Resembles *C. cailliaudi* in having the chin and throat spotted, but is much smaller and differs in having the back, rump and upper tail-coverts, scapulars, and wing-coverts olive with longitudinal spots of yellow, also in the abdomen and vent being spotted with black like the rest of the underparts. The upper parts somewhat resemble those of *C. balia*, but the present species may be distinguished from the latter by the absence of the black stripe behind the eye, by the tail-feathers being spotted on the margin instead of barred, also in the entirely spotted abdomen and vent, and the smaller dimensions. Total length 6·5 inches, culmen 0·67, wing 3·65, tail 2·2, tarsus 0·65 ; toes (without claws)—outer anterior 0·5, outer posterior 0·43, inner anterior 0·4, inner posterior 0·22.

Adult male. Has the forehead and crown, as well as the occiput and nape, crimson. In other respects it resembles the adult female. Total length 6·5 inches, culmen 0·65, wing 3·72, tail 2·3, tarsus 0·65.

Hab. Zanzibar.

a. ♀ ad. sk.	Dar-es-Salaam (*Sir J. Kirk*).	Shelley Coll.

4. Campothera punctata.

Picus nubicus, *Licht. (nec Gm.) Verz. Doubl.* p. 11 (1823).
Picus punctatus, *Valenc. Dict. Sc. Nat.* xl. p. 171 (1826); *Less. Traité*, i. p. 219 (1831); *Rüpp. Neue Wirb., Vög.* 1835–1840, p. 90 ; *Pucher. Rev. et Mag. Zool.* 1852, p. 478; *Sundev. Consp. Av. Picin.* p. 67 (1866).
Picus punctuligerus, *Wagl. Syst. Av.* Picus, sp. 36 (1827) ; *id. Isis*, 1829, p. 512.
Picus punctulatus, *Drap. Dict. Class. Hist. Nat.* xiii. p. 505 (1828).
Dendromus punctatus, *Swains. B. W. Afr.* ii. p. 163 (1837).

Campethera punctuligera, *Gray, Gen. B.* ii. p. 439 (1846); *Reichenb. Scans. Picinæ*, p. 423, pl. dclxxiii. figs. 4455, 4456 (1854); *Cass. Proc. Acad. Philad.* 1863, p. 327; *Oust. Nouv. Arch.* 1879, p. 150.
Dendrobates punctuligerus, *Bp. Consp. Gen. Av.* i. p. 123 (1850); *Hartl. J. f. O.* 1854, p. 198.
Dendromus punctuligerus, *Bp. Consp. Volucr. Zygod.* p. 9 (1854); *Hartl. Orn. W.-Afr.* p. 180 (1857).
Chrysopicus punctuligerus, *Malh. Picidæ*, ii. p. 164, pl. xcii. figs. 4–6 (1862).
Ipagrus punctatus, *Cab. & Heine, Mus. Hein.* iv. p. 124 (1863).
Campethera punctata, *Gray, List Picid. Brit. Mus.* p. 82 (1868); *id. Hand-l. B.* ii. p. 193, no. 8699 (1870); *Sharpe, Cat. Afr. B.* p. 17 (1871); *id. Ibis*, 1872, p. 68.
Campothera punctata, *Salvin, Cat. Strickl. Coll.* p. 394 (1882); *Hargitt, Ibis*, 1883, p. 463.

Adult male. Back, scapulars, and wing-coverts yellowish olive, with longitudinal yellow spots, and also spots of dusky olive; rump and upper tail-coverts olive barred with yellow, the latter washed with golden; quills dusky brown, the outer webs, except the tips of the primaries, golden olive spotted with yellow, the inner webs spotted with white; shafts yellow; tail olive-brown barred with golden buff, the tips of the feathers as well as the shafts golden yellow; forehead, crown, occiput, nape, and malar stripe crimson; nasal plumes, lores, and sides of the face and neck white tinged with yellowish, the ear-coverts finely striated with black and having a grey appearance, the side of the neck spotted with black; chin and throat buffy white, the under surface of the body and under tail-coverts yellow, the lower breast, abdomen, and vent almost entirely uniform, the remainder, including the chin and throat, covered with minute black spots; under wing-coverts and axillaries buffy white or yellowish spotted with black. Total length 8 inches, culmen 1·15, wing 4·5, tail 2·25, tarsus 0·9; toes (without claws)—outer anterior 0·67, outer posterior 0·6, inner anterior 0·47, inner posterior 0·3.

Adult female. Has the forehead and crown black striped with white. In other respects it resembles the adult male. Total length 8 inches, culmen 1·1, wing 4·5, tail 2·6, tarsus 0·9.

A young bird (sex?) in the Shelley collection has the forehead and crown uniform dusky black, the occipital band crimson; upper parts less yellowish olive, and underparts whiter.

Hab. From the Gold Coast, into Senegal on the west, and extending east to the River Niger.

a. ♀ ad. sk.	Senegal.	Tweeddale Coll.
b. ♀ ad. sk.	Gambia.	Tweeddale Coll.
c, d. ♂ ♀ ad. sk.	Gambia.	Sharpe Coll.
e. ♀ ad. sk.	Gambia.	University College.
f. ♀ ad. sk.	River Gambia.	Shelley Coll.
g. ♀ imm. sk.	R. Niger (*Dr. Baikie*).	Tweeddale Coll.
h. ♀ ad. sk.	Casamanze.	Sharpe Coll.
i. ♂ ad. sk.	Bissao.	Sharpe Coll.
k. ♂ ad. sk.	Fantee (*H. T. Ussher*).	Sharpe Coll.
l. Juv. sk.	Accra, April (*J. Smith*).	Shelley Coll.

5. Campothera balia.

Picus punctuligerus (*non Wagl.*), *Cab. J. f. O.* 1864, p. 253; *Finsch & Hartl. Vög. Ostafr. Scans.* p. 511, note (1870).
Picus balius, *Heugl. Orn. N. O.-Afr.* p. 810 (1871).
Campothera cailliaudi (pt.), *Hargitt, Ibis*, 1883, p. 455.
Campothera balia, *Sharpe, Journ. Linn. Soc.* xvii. p. 431 (1884).

Adult female. Above, including scapulars and wing-coverts, olive minutely spotted with yellow; rump and upper tail-coverts olive barred with yellowish; quills dusky brown, the outer webs of the secondaries and of the primaries at their base olive, the outer webs of the quills spotted with brownish or dull fulvescent white, the inner webs having whiter spots; shafts brownish yellow; tail brownish black, barred with umber-brown and washed with golden olive; shafts golden yellow; forehead and crown black spotted with white, the occiput and nape crimson; nasal plumes, lores, and sides of the face and neck buffy white, behind the eye a dusky black stripe, and the malar region as well as the side of the neck closely spotted with black; chin and throat buffy white, sparingly and minutely spotted with black; under surface of the body (except the abdomen which is nearly uniform) and under tail-coverts yellowish white spotted with black; under wing-coverts and axillaries more or less buffy white spotted with black. Total length 8 inches, culmen 0·9, wing 4·3, tail 2·35, tarsus 0·8; toes (without claws)—outer anterior 0·57, outer posterior 0·53, inner anterior 0·4, inner posterior 0·25.

Adult male. I have never seen the male of this species, but, according to Heuglin, it has the top of the head and the malar stripe red.

Hab. North-east Africa, extending into the Niam Niam Country.

a. ♀ ad. sk. Semmio, Niam Niam Country, Jan. 1883. F. Bohndorff [C.].

6. Campothera abingdoni.

Chrysoptilus abingoni, *Smith, Rep. S. Afr. Exped., App.* p. 53 (1836).
Dendromus chrysurus, *Swains. B. W. Afr.* ii. p. 158 (1837); *Hartl. Orn. W.-Afr.* p. 181 (1857); *id. J. f. O.* 1861, p. 264.
Campethera chrysura, *Gray, Gen. B.* ii. p. 439 (1846); *Reichenb. Scans. Picinæ*, p. 424, pl. dclxxiii. figs. 4457, 4458 (1854); *Gurney, Ibis*, 1860, p. 213; *Layard, B. S. Afr.* p. 238 (1867); *Gray, List Picid. Brit. Mus.* p. 81 (1868); *id. Hand-l. B.* ii. p. 192, no. 8694 (1870); *Sharpe, Cat. Afr. B.* p. 17 (1871); *Dubois, Bull. Mus. Roy. d'Hist. Nat. Belg.* 1886, p. 147.
Dendrobates chrysurus, *Bp. Consp. Gen. Av.* i. p. 123 (1850); *Hartl. J. f. O.* 1854, p. 199.
Chrysopicus chrysurus, *Malh. Picidæ*, ii. p. 153, pl. xciv. figs. 4, 5 (1862).
Dendromus smithii, *Gurney (non Malh.), Ibis*, 1862, p. 37; *id. tom. cit.* p. 157.
Ipagrus chrysurus, *Cab. & Heine, Mus. Hein.* iv. p. 128 (1863).

Campethera chrysura, *var.* lineata, *Cass. Proc. Acad. Philad.* 1863, p. 327 ; *Gray, List Picid. Brit. Mus.* p. 81 (1868).
Picus chrysurus, *Sundev. Consp. Av. Picin.* p. 64 (1866).
Campethera abingtoni, *Sharpe, ed. Layard's B. S. Afr.* p. 182 (1875); *id. in Oates's Matabele Land, App.* p. 306 (1881).
Campothera abingoni, *Hargitt, Ibis,* 1883, p. 471.
Campothera chrysura, *Hartl. Zool. Jahrb. Zeitschr. Syst. ges. Biol. Thiere,* 1887, p. 307.
Campothera abingtoni, *Ayres, Ibis,* 1887, p. 53.

Adult male. Back, scapulars, and wing-coverts olive spotted with yellowish white, sometimes transversely varied with the same; rump and upper tail-coverts olive barred with pale yellow; quills blackish brown, the outer webs of the secondaries and of the primaries at the base olive, and the webs spotted with yellowish, the inner webs spotted with pure white, the inner secondaries barred with white at the tip; shafts clear brown; tail blackish brown barred with buffy brown, the central feathers washed with olive; shafts yellow; nasal plumes black; forehead, crown, occiput, nape, and malar stripe crimson; sides of the face and neck white, the former striped and varied with black, especially above and behind the eye, the latter spotted with black; chin and throat white with longitudinal black spots; under surface of the body yellowish white, the chest and breast broadly striped with black, the stripes contracted in the middle, the abdomen with longitudinal but more spot-like markings, and the flanks and thighs transversely spotted with black; under tail-coverts yellowish white, with heart-shaped or transverse black spots; under wing-coverts and axillaries yellowish white spotted with black; underside of quill-shafts and of tail-shafts golden yellow. Total length 7·8 inches, culmen 1·05, wing 4·4, tail 2·35, tarsus 0·73; toes (without claws)—outer anterior 0·65, outer posterior 0·65, inner anterior 0·44, inner posterior 0·27.

Adult female. Differs from the adult male in having the forehead and crown black spotted with yellowish white, the occiput alone being scarlet; the malar region white striped with black: "bill horn-colour, paler on the lower mandible; iris brown; tarsus yellowish olive" (*G. E. Shelley*). Total length 7·8 inches, culmen 1·05, wing 4·3, tail 2·35, tarsus 0·8.

Young female. Is more dusky above than the adult and has the spots whiter; the top of the head brownish dusky, the forehead and outer edge of the crown being minutely speckled with white, the nuchal feathers orange-scarlet.

Hab. Natal, Zulu Land, and Swazi Land.

a. ♀ ad. st.	South Africa.	Purchased.
b. ♀ ad. sk.	South Africa.	Purchased.
c. ♀ ad. sk.	Natal.	T. Ayres [C.].
d. ♂ ad. sk.	Pinetown, Natal, May (*T. L. Ayres*).	Shelley Coll.
e. ♂ ad. sk.	Pinetown, Jan. 6 (*Ayres*).	H. Seebohm, Esq. [P.].
f, g. ♀ ad. sk.	Durban (*Gordge*).	Shelley Coll.
h, i. ♂ ♀ ad. sk.	Durban, April (*G. E. S.*).	Shelley Coll.
k. ♂ ad. sk.	Newcastle (*Reid*).	Shelley Coll.

l. ♀ ad. sk.	Swazi Land.	S. Cuthbert, Esq. [P.].
m. ♂ ad.; ♀ imm sk.	Zulu Land, July (*Gordge*).	Shelley Coll.
n. ♂ ad. sk.	River Loge, Angola (*J. J. Monteiro*).	Sharpe Coll.
o. ♂ ad. sk.	[Gambia.]	University College.

Subsp. *a.* **Campothera mombassica.**

Picus abingoni (*non Smith*), *Fisch. & Reichen. J. f. O.* 1878, p. 250; *Böhm, J. f. O.* 1883, p. 168.
Campothera chrysurus (*non Swains.*), *Gurney, Ibis*, 1881, p. 128.
? Picus (Campothera) abingoni, *Fisch. in Madarász, Zeitsch. gesamm. Orn.* 1884, p. 369.
Picus (Campothera) mombassicus, *Fisch. & Reichen. J. f. O.* 1884, p. 262.

Adult female. Differs from the adult female of *C. abingdoni* in having the forehead and crown *deep olive* spotted with white; the back with only a few small spots of yellow; the rump narrowly barred with yellow; the upper tail-coverts with almost obsolete barring, and the striations on the chest broader. Total length 7·3 inches, culmen 0·95, wing 4·25, tail 2·4, tarsus 0·75; toes (without claws)—outer anterior 0·58, outer posterior 0·62, inner anterior 0·43, inner posterior 0·3.

Adult male. I have not had an opportunity of examining the male of this species, but from Fischer and Reichenow's diagnosis of it, as compared with *C. abingdoni*, it would appear that the male of *C. mombassica* differs from the female in having the top of the head and the malar stripe red. The red on the crown is confined to the tips of the feathers, the remaining portion being brownish olive. The measurements, according to Fischer and Reichenow, are as follows:—total length 7·05 inches, wing 4·1, tail 2·9, tarsus 0·7, culmen 0·85.

Hab. Only known from Mombasa*.

a. ♀ ad. sk.	Mombasa.	Rev. F. A. Buxton [P.].

7. Campothera smithii.

Picus (Chrysoptilopicus) smithii, *Malh. Rev. Zool.* 1845, p. 403.
Dendrobates abingtoni (*non Smith*), *Bp. Consp. Gen. Av.* i. p. 124 (1850); *Bocage, Jorn. Sc. Lisb.* no. iv. 1867, p. 336.
Campethera abingtoni (*non Smith*), *Strickl. & Sclat. Contr. Orn.* 1852, p. 156.
Dendromus abingtoni (*non Smith*), *Bp. Consp. Volucr. Zygod.* p. 9 (1854).
Chrysopicus brucei, *Malh. Picidæ*, ii. p. 170, pl. xciii. fig. 1 (1862).
Ipagrus brucei, *Cab. & Heine, Mus. Hein.* iv. p. 125 (1863); *Gurney, in Anderss. B. Damara Land*, p. 221 (1872).

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* *Picus* (*Campothera*) *abingoni*, of Fischer (Madarász, Zeitsch. gesamm. Orn, 1884, p. 369), from Gross Aruscha, is very probably referable to the present species.

Picus smithii, *Sundev. Consp. Av. Picin.* p. 65 (1866).
Picus brucei, *Sundev. Consp. Av. Picin.* p. 66 (1866).
Dendrobates brucei, *Bocage, Jorn. Sc. Lisb.* no. v. 1868, p. 45; *id. op. cit.* no. xiv. 1873, p. 336; *Sharpe, P. Z. S.* 1871, p. 134.
Campethera smithii, *Gray, List Picid. Brit. Mus.* p. 81 (1868); *id. Hand-l. B.* ii. p. 193, no. 8695 (1870); *Sharpe, ed. Layard's B. S. Afr.* p. 184 (1875); *id. in Oates's Matabele Land, App.* p. 306 (1881).
Campethera brucei, *Gray, List Picid. Brit. Mus.* p. 81 (1868); *id. Hand-l. B.* ii. p. 193, no. 8696 (1870); *Sharpe, Cat. Afr. B.* p. 17 (1871); *Bocage, Orn. Ang.* 1877, p. 79; *id. Jorn. Sc. Lisb.* 1880, p. 232.
Campethera chrysura (*non Swains.*), *Sharpe, P. Z. S.* 1869, p. 170; *Bocage, Orn. Ang.* 1877, p. 78.
Dendrobates striatus, *Layard, Ibis*, 1871, p. 227.
Campothera smithii, *Hargitt, Ibis*, 1883, p. 467; *Büttik. Notes Leyd. Mus.* 1889, p. 69.

Adult male. Differs from *C. abingdoni* in having the upper parts transversely varied as well as spotted with yellowish; the orbital region black, more or less spotted with white; chin, throat, and fore neck black, spotted with white: the malar region also black, the feathers being tipped with crimson; ear-coverts and region immediately behind them uniform white; the underparts, in addition to the black striations, having numerous V-shaped markings of black, and on the chest squamate markings, the latter being decidedly conspicuous and giving the chest a very black appearance: shafts of primaries yellow, those of the secondaries browner: "bill bluish brown; iris pink wine-colour; legs and toes greyish green" (*Andersson*). Total length 7·8 inches, culmen 1·3, wing 4·75, tail 2·5, tarsus 0·85; toes (without claws)—outer anterior 0·7, outer posterior 0·6, inner anterior 0·55, inner posterior 0·3.

Adult female. Has the forehead and crown black, spotted with white; the malar region black with white spots. Otherwise it resembles the adult of the opposite sex. Total length 8 inches, culmen 1·2, wing 4·7, tail 2·55, tarsus 0·85.

Hab. The Transvaal and the Matabele Country, west to Damara Land and north to Mossamedes and Angola.

a. ♂ ad. st.	S. Africa.	Purchased.
b. ♂ ad. sk.	S. Africa.	Sir A. Smith.
c, d. ♂ imm.; *e.* ♀ imm. sk.	Rustenberg, Natal, Dec. (*T. Ayres*).	Shelley Coll.
f. ♂ ad. sk.	Ondonga, Damara Land, Jan. 19, 1867 (*C. J. Andersson*).	Sharpe Coll.
g. ♀ imm. sk.	Oranis River, Damara Land, April 12, 1865 (*C. J. Andersson*).	Tweeddale Coll.
h, i. ♀ ad. sk.	Otjimbinque, May 30, 1866 (*C. J. Andersson*).	Sharpe Coll.
k. ♀ ad. sk.	Otjimbinque, Nov. 21, 1864 (*C. J. Andersson*).	Tweeddale Coll.
l. ♂ ad. sk.	Ovaquenyama, May 20, 1867.	Sharpe Coll.

m. ♀ imm. sk.	Elephant Vley, Oct. 18, 1859 (*C. J. Andersson*).	Sharpe Coll.
n. ♂ ad. sk.	Damara Land.	Purchased.
o. ♀ juv. sk.	Angola (*J. J. Monteiro*).	Sharpe Coll.
p. ♂ imm. sk.	Galungo Loanda, Sept. 28, 1869 (*Sala*).	Sharpe Coll.
q. ♂ imm. sk.	Kanye.	Sharpe Coll. (Type of *C. striatus*.)
r. ♂ ad. sk.	Tati, Oct. 6, 1874 (*F. Oates*).	C. G. & W. E. Oates [P.].

8. Campothera cailliaudi.

Chrysopicos cailliauti, *Malh. Rev. Zool.* 1849, p. 540.
Dendromus cailliauti, *Bonap. Consp. Volucr. Zygod.* p. 9 (1854).
Chrysopicus cailliaudi, *Malh. Picidæ*, ii. p. 167 (1862).
Ipagrus cailliaudi, *Cab. & Heine, Mus. Hein.* iv. p. 127 (1863).
Picus puncticligerus ?, *Hengl. J. f. O.* 1864, p. 253; *Finsch & Hartl. Vög. Ostafr.* p. 511, note (1870).
Picus cailliaudi, *Sundev. Consp. Av. Picin.* p. 65 (1866).
Campethera cailliauti, *Gray, List Picidæ Brit. Mus.* p. 81 (1868); *id. Hand-l. B.* ii. p. 193, no. 8701 (1870).
Picus nubicus (*non Gm.*), *Shelley, P. Z. S.* 1881, p. 593.
Campothera cailliaudi, *Hargitt, Ibis*, 1883, p. 455.
Campethera cailliaudi, *Sousa, Jorn. Sc. Lisb.* xii. p. 45 (1887).

Adult female. Resembles *C. bennetti* in having the back barred, but differs from it in not having the face uniform and also in the chin and throat being white spotted with black; the rump and upper tail-coverts are likewise less yellow, and the blackish-olive bars are broader. The present species also bears a close resemblance to *C. nubica*, but may be distinguished by its smaller size and its spotted throat, as well as by its unspotted abdomen. Total length 7·5 inches, culmen 0·92, wing 4·2, tail 2·45, tarsus 0·8; toes (without claws)—outer anterior 0·6, outer posterior 0·52, inner anterior 0·42, inner posterior 0·3.

The *male* of this rare species is unknown to me.

Hab. Lamo, south of Zanzibar, and, according to Sr. de Sousa, found in the north of Mozambique.

a. ♀ ad. sk.	Lamo (*Sir J. Kirk*).	Shelley Coll.

9. Campothera bennetti.

Chrysoptilus bennettii, *Smith, Rep. S. Afr. Exp., App.* p. 53 (1836); *Gurney, Ibis*, 1869, p. 296.
Campethera variolosa (*Licht. in Mus. Berol.*), *Gray, Gen. B.* ii. p. 439 (1846); *Licht. Nomencl. Av.* 1854, p. 76; *Reichenb. Scans. Picinæ*, p. 425, pl. dclxxv. figs. 4464–5 (1854); *Gray, List Picid. Brit. Mus.* p. 80 (1868); *id. Hand-l. B.* ii. p. 192, no. 8693 (1870).
Campethera abingtoni, *Gray, Gen. B.* iii. *App.* p. 21 (1849); *Reichenb. Scans. Picinæ*, p. 427 (1854).
Dendrobates variolosus, *Bp. Consp. Gen. Av.* i. p. 123 (1850).

Dendromus bennettii, *Bp. Consp. Volucr. Zygod.* p. 9 (1854).
Dendromus guttatus, *Bp. Consp. Volucr. Zygod.* p. 9 (1854).
? Picus abingtoni, *Grill, Zool. Anteckn.* 1859, p. 44.
Chrysopicus variolosus, *Malh. Monogr. Picid.* ii. p. 165, pl. xcv. figs. 1, 2 (1862).
Ipagrus bennetti, *Cab. & Heine, Mus. Hein.* iv. p. 123 (1863).
Picus bennetti, *Sundev. Consp. Av. Picin.* p. 63, no. 186 (1866).
Campethera bennetti, *Sharpe, Cat. Afr. B.* p. 17 (1871); *Layard, Ibis*, 1871, p. 227; *Sharpe, ed. Layard's B. S. Afr.* p. 181 (1875); *Ayres, Ibis*, 1879, p. 299; *Sharpe, in Oates's Matabele Land, App.* p. 306 (1881); *Ayres, Ibis*, 1886, p. 291.
Ipagrus variolosus, *Gurney, in Anderss. B. Damara Land*, p. 222 (1872).
Campothera bennetti, *Hargitt, Ibis*, 1883, p. 456; *Ayres, op. cit.* 1887, p. 53.

Adult male. Back, scapulars, and wing-coverts deep olive, barred with pale yellow; rump and upper tail-coverts pale yellow, narrowly barred with deep olive; quills nearly black, the outer webs of the secondaries and of the primaries at their base olive, the outer webs of the quills spotted with yellowish white, the inner webs having purer white spots, the innermost feathers barred right across; shafts golden yellow; tail rufous-brown, barred and tipped with black; shafts yellow; forehead, crown, and occiput crimson; nape and hind neck brownish black; nasal plumes buffy white; lores and sides of the face and neck buffy white, the side of the neck covered with large black spots; malar stripe crimson; chin and throat uniform buffy white; entire underparts and under tail-coverts yellowish or buffy white, and (except on the abdomen) entirely spotted with black; under wing-coverts yellowish or buffy white spotted with black: "bill black; iris red; tarsus greyish" (*T. E. Buckley*). Total length 8·5 inches, culmen 1·15, wing 4·8, tail 2·6, tarsus 0·82; toes (without claws)—outer anterior 0·65, outer posterior 0·53, inner anterior 0·5, inner posterior 0·27.

Adult female. Differs from the adult male in having the forehead and crown black spotted with white; the lores, orbital region, ear-coverts, chin, and throat chestnut-brown; the malar region and the remaining portion of the face white, the feathers having partially-exposed black bases. In other respects it resembles the male. Total length 8·3 inches, culmen 1·05, wing 4·5, tail 2·35, tarsus 0·85.

Hab. Natal and the Transvaal, through the Makalaka Country to the Zambesi and the Lake Ngami district.

a, b. ♂ ♀ ad. sk.	Cape Colony.	S. African Museum.
c, d. ♂ ♀ ad. sk.	Transvaal (*Ayres*).	Sharpe Coll.
e, f. ♂ ♀ ad. sk.	Swazi Land, July (*T. E. Buckley*).	Shelley Coll.
g. ♂ imm. sk.	Lake Ngami district (*C. J. Andersson*).	Sharpe Coll.
h. ♂ ad. sk.	Makalaka (*Dr. Bradshaw*).	Shelley Coll.
i. ♀ ad. sk.	Makalaka Kraal, Sept. 7, 1874 (*F. Oates*).	C. G. & W. E. Oates [P.].

Subsp. *a.* Campothera capricorni.

Campethera capricorni, *Strickl. & Sclat. Contr. Orn.* 1852, p. 155; *Jardine, Mem. Strickl.* 1858, p. 344; *Gray, List Picid. Brit. Mus.* p. 81 (1868); *Newton, Ibis*, 1869, p. 323, pl. ix.; *Gray, Hand-l. B.* ii. p. 193, no. 8700 (1870); *Sharpe, Cat. Afr. B.* 1871, p. 17; *id. ed. Layard's B. S. Afr.* p. 180 (1875); *Sousa, Jorn. Sc. Lisb.* 1889, p. 121.
Dendromus capricorni, *Bp. Consp. Volucr. Zygod.* p. 9 (1854).
Chrysopicus capricorni, *Malh. Picidæ*, ii. p. 109 (1862).
Ipagrus capricornis, *Cab. & Heine, Mus. Hein.* iv. p. 123 (1863).
Picus capricorni, *Sundev. Consp. Av. Picin.* p. 64, no. 187 (1866).
Dendrobates nigrogularis, *Bocage, Jorn. Lisb.* iv. 1867, p. 336; *id. op. cit.* v. 1868, p. 45.
Ipagrus capricorni, *Gurney, in Anderss. B. Dam. Ld.* p. 221 (1872).
Campethera bennetti, *Bocage, Orn. Ang.* p. 80, no. 61 (1877); *id. Jorn. Sc. Lisb.* 1880, p. 232.
Campothera capricorni, *Salvin, Cat. Strickl. Coll.* p. 394 (1882); *Hargitt, Ibis*, 1883, p. 458.
Campothera bennettii, *Büttik. Notes Leyd. Mus.* 1889, p. 69; *Sousa, Jorn. Sc. Lisb.* 1889, p. 43.

Adult female. Resembles the female of *C. bennetti*, but differs in having the rump and upper tail-coverts spotted instead of barred and also in having the under surface of the body almost uniform yellow, with only a few spots of black on the sides of the chest and body, flanks, and thighs. There is very much less black on the side of the neck in the present bird: "bill brown slate-colour: iris claret-coloured; legs and toes lead-coloured" (*Andersson*). Total length 8·5 inches, culmen 1·15, wing 5·0, tail 3·2, tarsus 0·95; toes (without claws)—outer anterior 0·7, outer posterior 0·63, inner anterior 0·55, inner posterior 0·35.

Adult male. Differs from the adult female in having the face, chin, and throat uniform white, the whole top of the head and a very large malar stripe being crimson. Total length 8·5 inches, culmen 1·15, wing 5·15, tail 2·7, tarsus 0·9.

Hab. South-western Africa, from the Upper Cunene Region into Angola.

a. ♂ ad. sk.	Omanbondi, Damara Land (*C. J. Andersson*).	Tweeddale Coll.
b. ♀ ad. sk.	River Cunene, Damara Land, June 25, 1867 (*C. J. Andersson*).	Sharpe Coll.
c. ♀ ad. sk.	Capangombe, Angola (*Anchieta*).	Sharpe Coll.

10. Campothera maculosa.

Picus maculosus, *Valenc. Dict. Sc. Nat.* xl. 1826, p. 173 (♀); *Sundev. Consp. Av. Picin.* p. 62 (1866).
Picus olivaceus, *Gray, Zool. Misc.* 1831, p. 18 (♀).
Dendromus brachyrhynchus, *Swains. B. W. Afr.* ii. p. 160 (1837); *id. Classif. B.* ii. p. 307 (1837).
Campethera brachyrhynchus, *Gray, List Gen.* 1841, p. 70.

Picus (Chloropicos) rufoviridis, *Malh. Rev. Zool.* 1845, p. 401.
Chloronerpes rufoviridis, *Gray, Gen. B.* i. p. 443 (1845); *Reichenb. Scans. Picinæ*, p. 335 (1854).
Dendrobates olivaceus, *Gray, Gen. B.* ii. p. 437 (1846).
Campethera maculosa, *Gray, Gen. B.* iii. *App.* p. 21 (1849); *id. List Picid. Brit. Mus.* p. 78 (1868); *id. Hand-l. B.* ii. p. 192, no. 8688 (1870).
Dendrobates brachyrhynchus, *Bp. Consp. Gen. Av.* i. p. 123 (1850).
Picus chloronotus, *Cuv. in Mus. Paris*; *Pucher. Rev. et Mag. Zool.* 1852, p. 479.
Dendromus rufoviridis, *Bp. Consp. Volucr. Zygod.* p. 9 (1854).
Dendropicus olivaceus, *Hartl. Orn. W.-Afr.* p. 177 (1857).
Chrysopicus maculosus, *Malh. Picidæ*, ii. p. 156, pl. xcii. fig. 3 (1862).
Campothera maculosa, *Cab. & Heine, Mus. Hein.* iv. p. 133 (1863); *Hargitt, Ibis*, 1883, p. 475; *Büttik. Notes Leyden Mus.* 1885, p. 220; *id. op. cit.* 1886, p. 264.
Campethera vestita, *Cass. Proc. Acad. Philad.* 1863, p. 197; *id. Journ. Acad. Philad.* 1863, p. 458, pl. li. fig. 2.
Picus (Campothera) maculosus, *Reichenow, J. f. O.* 1876, p. 98.

Adult male. Back, rump, and upper tail-coverts, scapulars, wing-coverts, outer webs of secondaries and of primaries at the base golden-olive, the upper parts and scapulars having a few yellow shaft-stripes and the upper back spotted with buff, the lesser and the median coverts having longitudinal spots of buff; the remaining portion of the quills blackish brown, the inner webs more or less spotted or margined with white; shafts dark brown; tail black, the central feathers margined with olive at the base; shafts black; nasal plumes black; forehead, crown, occiput, and nape crimson; hind neck dusky olive spotted with buff; face, chin, and throat pale buff spotted with black: side of the neck, fore neck, and entire under surface of the body yellow barred with black; under tail-coverts margined with yellow and having a V-shaped black marking with a white centre; under wing-coverts and axillaries yellowish buff, the former sometimes unspotted, the latter having their tips slightly dusky. Total length 6·7 inches, culmen 0·77, wing 3·9, tail 2·4, tarsus 0·67; toes (without claws)—outer anterior 0·55, outer posterior 0·5, inner anterior 0·42, inner posterior 0·2.

Adult female. Differs from the adult male in having the forehead and crown black, spotted with white or yellowish white. Total length 6·5 inches, culmen 0·7, wing 4·1, tail 2·3, tarsus 0·65.

Young. Have the top of the head black, with rounded spots of buff; the sides of the face and neck, chin, and throat buff, spotted with black; under wing-coverts uniform. Otherwise like the adult.

Herr Büttikofer ('Notes from the Leyden Museum,' vii. p. 220, 1885) mentions having obtained in Western Liberia a female specimen agreeing in every respect with Cassin's description of *C. vestita*. This I take to be a bird in first plumage.

Hab. Senegal to the Gold Coast, and extending into the Niam Niam Country and the Tingasi District.

a, b. Juv. sk.	West Africa.	Purchased.
c. ♂ ad. sk.	Gold Coast, Jan. (*Kirby*).	Shelley Coll.

d. ♂ ad. sk.	Fantee.	S. T. Aubin [C.].
e. ♂ ad.; *f*. ♀ imm. sk.	Aburi (*T. E. Buckley*).	Shelley Coll.
g. ♀ ad. sk.	Ndoruma, Niam Niam Country, Nov. 1880.	F. Bohndorff [C.].
h. ♀ ad. sk.	Tingasi.	Emin Pasha [P.].

11. Campothera permista.

Dendromus brachyrhynchus (*non Swains.*), *Hartl. Orn. W.-Afr.* p. 182 (1857); *id. J. f. O.* 1861, p. 264.
Chrysopicus brachyrhynchus, *Malh. Picidæ*, ii. p. 152, pl. xci. figs. 6, 7 (1862).
Campothera brachyrhyncha, *Cab. & Heine, Mus. Hein.* iv. p. 132 (1863).
Picus brachyrhynchus, *Sundev. Consp. Av. Picin.* p. 62 (1866).
Campethera brachyrhyncha, *Gray, List Picid. Brit. Mus.* 1868, p. 78; *id. Hand-l. B.* ii. p. 192, no. 8689 (1870).
Picus (Campothera) permistus, *Reichenow, J. f. O.* 1876, p. 97.
Campethera maculosa (*non Valenc.*), *Sharpe & Bouvier, Bull. Soc. Zool. France*, 1876, p. 51.
Campethera permista, *Sharpe & Bouvier, Bull. Soc. Zool. France*, 1876, p. 312; *Bocage, Orn. Ang., App.* p. 536 (1881).
Campothera permista, *Haryitt, Ibis*, 1883, p. 478; *Sharpe, Journ. Linn. Soc.* xvii. p. 431 (1884).

Adult male. Resembles *C. maculosa*, but is very much smaller and has always the under wing-coverts and axillaries transversely spotted with black; the tail is browner and the shafts are brown, only the tips being black; the lateral feathers occasionally have bar-like spots of brownish white upon the base of the inner webs. Total length 6 inches, culmen 0·67, wing 3·7, tail 2·4, tarsus 0·65; toes (without claws)—outer anterior 0·6, outer posterior 0·5, inner anterior 0·45, inner posterior 0·2.

Adult female. Has the forehead and crown black spotted with yellowish white, the occiput (only) being scarlet. Otherwise like the adult male. Total length 6 inches, culmen 0·6, wing 3·55, tail 2·15, tarsus 0·65.

Immature (sex?). The feathers of the forehead and crown are yellow with sooty-black bases, the nuchal crest being bright golden yellow inclining to orange; under wing-coverts buffy white spotted with black; tail dusky olive, all the feathers having faint blackish bars. This is an interesting stage, and apparently rare in collections.

Hab. Gaboon and the Congo Region.

a. ♀ ad. sk.	Gaboon (*Du Chaillu*).	Sharpe Coll.
b. ♀ ad.; *c*. imm. sk.	Gaboon (*Walker*).	Sharpe Coll.
d, *e*. ♂ ad. sk.	Gaboon.	H. T. Ansell, Esq. [P.].
f. ♀ ad. sk.	Gaboon.	A. Bouvier, Esq. [P.].
g. ♂ ad. sk.	Congo (*Petit*).	Shelley Coll.

12. Campothera caroli.

Chloropicus caroli, *Malh. Rev. de Zool.* 1852, p. 550.
Dendrobates caroli, *Hartl. J. f. O.* 1854, p. 198.
Pardipicus caroli, *Bonap. Consp. Volucr. Zygod.* p. 9 (1854).
Scolecotheres caroli, *Reichenb. Scans. Picinæ*, p. 429, no. 1012 *b* (1854).
Dendromus caroli, *Hartl. Orn. W.-Afr.* pp. 182, 274 (1857); *Cass. Proc. Acad. Philad.* 1859, p. 141; *Heine, J. f. O.* 1860, p. 191; *Hartl. op. cit.* 1861, p. 264.
Chrysopicus caroli, *Malh. Picidæ*, ii. p. 157, pl. xci. fig. 4 (1862).
Cnipotheres caroli, *Cab. & Heine, Mus. Hein.* iv. p. 131 (1863).
Picus caroli, *Sundev. Consp. Av. Picin.* p. 56 (1866); *Reichenow, J. f. O.* 1877, p. 18.
Campethera caroli, *Cass. Proc. Acad. Philad.* 1863, p. 326; *Gray, List Picid. Brit. Mus.* p. 79 (1868); *id. Hand-l. B.* ii. p. 192, no. 8691 (1870); *Sharpe, Cat. Afr. B.* p. 17 (1871); *id. Ibis*, 1872, p. 68; *Ussher, op. cit.* 1874, p. 55; *Sharpe & Bouvier, Bull. Soc. Zool. France*, 1876, p. 16; *Bocage, Orn. Ang., App.* p. 536 (1877).
Campothera caroli, *Hargitt, Ibis*, 1883, p. 480; *Büttik. Notes Leyden Mus.* 1885, p. 221; *Sharpe, Journ. Linn. Soc.* xvii. p. 431 (1884); *Büttik. Notes Leyden Mus.* 1888, p. 96, 1889, p. 125.

Adult male. Has the upper parts uniform olive and the underparts spotted with buff or fulvescent white as in *C. nivosa*; but it is a very distinct species, and differs from the latter in having a large rufous patch on the posterior part of the face and the side of the neck; the malar region, chin, and throat being spotted like the underparts, and the feathers of the forehead, crown, occiput, and nape tipped with dull crimson, their bases being dusky olive. The dimensions of *C. caroli* are also very much greater: "eyes dark brown; feet greenish" (*Lucan & Petit*). Total length 7·3 inches, culmen 1·05, wing 4·15, tail 2·5, tarsus 0·72; toes (without claws)—outer anterior 0·63, outer posterior 0·57, inner anterior 0·45, inner posterior 0·27.

Adult female. Has the forehead, crown, and occiput uniform blackish olive. In other respects the sexes resemble each other. Total length 7 inches, culmen 1, wing 3·95, tail 2·4, tarsus 0·7.

The peculiar green colour distributed over the face and the under wings of Gaboon examples is, without doubt, a stain derived from the trees affected by the species in Gaboon alone.

Hab. From Gaboon to the Gold Coast and Liberia, and extending eastward into the Niam Niam Country.

a, b. ♀ ad. sk.	Denkera (*H. T. Ussher*).	Sharpe Coll.
c. ♂ ad. sk.	Gaboon.	Purchased.
d. ♂ ad. sk.	Gaboon (*Walker*).	Sharpe Coll.
e. ♀ ad. sk.	Gaboon (*Du Chaillu*).	Sharpe Coll.
f. ♀ ad. sk.	Gaboon.	Tweeddale Coll.
g. ♀ imm. sk.	Gaboon (*Walker*).	Tweeddale Coll.
h. ♀ ad. sk.	Gaboon (*Du Chaillu*).	Tweeddale Coll.
i. ♂ ad. sk.	R. Muni (*Du Chaillu*).	Tweeddale Coll.
k. ♀ ad. sk.	Sassa, Niam Niam Country.	F. Bohndorff [C.].

13. Campothera nivosa.

Dendromus nivosus, *Swains. B. W. Afr.* ii. p. 162 (1837); *Hartl. Orn. W. Afr.* p. 183 (1857); *Cass. Proc. Acad. Philad.* 1859, p. 141; *Heine, J. f. O.* 1860, p. 192; *Hartl. op. cit.* 1861, p. 264; *Sharpe, Ibis*, 1869, p. 194; *Ussher, op. cit.* 1874, p. 55.

Campethera nivosa, *Gray, Gen. B.* ii. p. 439 (1846); *id. List Picid. Brit. Mus.* p. 80 (1868); *id. Hand-l. B.* ii. p. 192, no. 2154 (1870); *Sharpe, Cat. Afr. B.* p. 17 (1871); *id. P. Z. S.* 1871, p. 607.

Chloropicus nivosus, *Malh. Mém. Acad. Metz*, 1848–49, p. 352.

Dendrobates nivosus, *Bp. Consp. Gen. Av.* i. p. 126 (1850); *Hartl. J. f. O.* 1854, p. 198.

Scolecotheres nivosus, *Reichenb. Scans. Picinæ*, p. 428, no. 1012 (1854).

Pardipicus nivosus, *Bp. Consp. Volucr. Zygod.* p. 9 (1854).

Chrysopicus nivosus, *Malh. Picidæ*, ii. p. 151, pl. xcii. figs. 1, 2 (1862).

Stictocraugus pardinus, *Cab. & Heine, Mus. Hein.* iv. p. 130 (1863).

Picus pardinus, *Temm. in Mus. Lugd.*; *Sundev. Consp. Av. Picin.* p. 56 (1866).

Dendrobates congicus *, *Bocage, Jorn. Acad. Sc. Lisb.* no. xxix. p. 50; *id. Orn. Ang., App.* p. 535 (1877).

Campothera nivosa, *Hargitt, Ibis*, 1883, p. 482; *Büttik. Leyden Notes*, 1885, p. 221, 1886, p. 264.

Adult male. Back, rump, and upper tail-coverts, scapulars, wing-coverts, outer webs of secondaries and of primaries at the base uniform golden olive; the remaining portion of the quills brownish black, the primaries spotted with white on the outer webs; the inner webs of the quills margined with white on more or less of the basal portion, the white scalloping the black web; shafts black; tail brownish black, the lateral feathers spotted with buffy white on the outer webs; shafts black; nasal plumes brownish black; forehead, crown, and occiput olive-brown, the nape scarlet; face (except above the ear-coverts), chin, and throat fulvescent white, the malar region, chin, and throat striped with olive-black; above the ear-coverts, the side of the neck and fore neck, and the whole of the underparts and under tail-coverts brownish olive, covered with rounded spots of buffy or fulvescent white; under wing-coverts uniform buffy white. Total length 6 inches, culmen 0·8, wing 3·3, tail 1·7, tarsus 0·75; toes (without claws)—outer anterior 0·62, outer posterior 0·55, inner anterior 0·4, inner posterior 0·25.

Adult female. Differs from the adult male in wanting the red nuchal band. Total length 6·5 inches, culmen 0·8, wing 3·55, tail 1·8, tarsus 0·7.

Hab. Casamanze, through Liberia and the Gold Coast to the Cameroons; Gaboon, and the West Congo region.

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* I have examined the type, and found it to be an immature example of the present species.

a. ♀ ad. st.	West Africa.	Zoological Society.
b. ♀ ad. sk.	West Africa.	Purchased.
c. ♂ imm. sk.	West Africa.	Tweeddale Coll.
d. ♀ ad. sk.	Gold Coast (*Kirby*).	Shelley Coll.
e. ♂ ad. sk.	Fantee.	Salvin-Godman Coll.
f, *g*. ♂ ad. et juv.; *h*, *i*, *k*. ♀ ad. et imm. sk.	Fantee.	Shelley Coll.
l. ♀ ad. sk.	Fantee.	Tweeddale Coll.
m. ♂ ad. sk.	Fantee.	R. Bowdler Sharpe, Esq. [P.].
n. ♀ ad. sk.	Fantee (*H. T. Ussher*).	Sharpe Coll.
o. ♂ ad.; *p*, *q*. ♀ ad. sk.	Denkera, Jan. 1872 (*Blissett*).	Sharpe Coll.
r. ♀ ad. sk.	Wassau (*Blissett*).	Sharpe Coll.
s. ♀ ad. sk.	Wassau (*Blissett*).	Shelley Coll.
t. ♂ imm. sk.	Accra (*Haynes*).	Sharpe Coll.
u. ♀ ad. sk.	Cameroon mountains, Feb. 4, 1871 (*Crossley*).	Sharpe Coll.

7. CHRYSOPTILUS.

	Type.
Chrysoptilus, *Swains. Faun. Bor.-Amer.* p. 300 (1831)	C. guttatus.
Chrysopicus (pt.), *Bp. Consp. Volucr. Zygod.* no. 142 (1854)	C. atricollis.

Range. South America, south into the Argentine Republic and Chili.

Key to the Species.

A. Underparts spotted.
  a'. Chin and throat distinctly striped, the entire margins of the feathers being white.
    a''. Shafts of the six central tail-feathers black.
      a'''. Ground-colour of the under surface of the body green.
        a[1]. With red malar stripe ..... *melanochlorus* ♂ ad., [p. 111.
        b[4]. Malar region striped black and white..... *melanochlorus* ♀ ad., [p. 111.
      b'''. Ground-colour of the under surface of the body yellow, or sometimes orange on the chest.
        c[4]. With a broad black stripe behind the malar region; chest orange; rump and upper tail-coverts nearly white.
          a[5]. With red malar stripe ..... *cristatus* ♂ ad., p. 112.
          b[5]. Malar region black, with stripe-like spots of white ..... *cristatus* ♀ ad., p. 113.
          c[5]. Malar region uniform black .. *cristatus*, juv., p. 113.

d^4. With no black stripe behind the malar region; chest not orange; rump and upper tail-coverts bright yellow.
d^5. Rump and thighs barred.
a^6. With red malar stripe .... *icteromelas* ♂ ad., p. 114.
b^6. Malar region striped black and white ..... *icteromelas* ♀ ad., p. 114.
e^5. Rump uniform or spotted, not barred; thighs spotted.
c^6. With red malar stripe .... *chrysomelas* ♂ ad., p. 115.
d^6. Malar region striped black and white ..... *chrysomelas* ♀ ad., p. 115.
b''. Shafts of all the tail-feathers yellow, the central ones brown at the tip .. *maricæ* ♂ ad., p. 115.
b' Chin and throat spotted, the white spots being one on each web, sometimes large and reducing the black in the middle of the feather to a stripe, but the white never forming an even margin to the feather.
c''. Smaller: length 7 inches, wing 3·9–4; the spots on the chin and throat small and rounded, the feathers not having a striped appearance.
c'''. With red malar stripe..... *punctigula* ♂ ad., p. 116.
d'''. Malar region black, minutely spotted with white ..... *punctigula* ♀ ad., p. 117.
e'''. Malar region uniform black..... *punctigula* ♀ juv., p. 117.
d''. Larger: length 8 inches, wing 4·3; the spots on the chin and throat, in the adult, large and narrowing the black in the middle of the feather to a stripe, rounded in the young.
f'''. With red malar stripe..... *guttatus* ♂ ad., p. 118.
g'''. Malar region striped black and white..... *guttatus* ♀ ad., p. 118.
h'''. Malar stripe uniform black..... *guttatus* juv., p. 118.
B. Underparts barred; chin and throat uniform black, with red malar stripe ..... *atricollis* ♂ ad., p. 119.

1. Chrysoptilus melanochlorus.

Picus melanochloros, *Gm. Syst. Nat.* i. p. 427, ♂ (1788); *Lath. Ind. Orn.* i. p. 239 (1790); *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 76 (1818); *id. & Bonn. Enc. Méth.* iii. p. 1308 (1823); *Wagl. Syst. Av.* Picus, sp. 42 (1827), pt.; *Drap. Dict. Class.* xiii. p. 499 (1828); *Neuwied, Beitr. Naturg. Bras.* iv. p. 423 (1832).
Carpintero verdinegro, *Azara, Apunt. Hist. Nat. Páxar. Parag.* ii. p. 306, no. 252 (1805).
Picus melanochlorus, *Licht. Verz. Doubl.* p. 10 (1823); *Sundev. Consp. Av. Picin.* p. 75 (1866).
Picus chlorozostus, *Wagl. Isis*, 1829, p. 513, ♀.
Picus melanochloris, *Cuv. Règne Anim.* i. p. 451 (1829).
Chrysoptilus melanochlorus, *Hartl. Ind. Azara*, p. 16, no. 252 (1847);

Burm. Th. Bras. ii. p. 242 (1856); *Scl. Cat. Amer. B.* p. 340, no. 2032 (1862); *Cab. & Heine, Mus. Hein.* iv. p. 164 (1863); *Gray, List Picid. Brit. Mus.* p. 93 (1868); *id. Hand-l. B.* ii. p. 195, no. 8735 (1870).

Chrysopicos melanochlorus, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 354.

Chrysoptilus buffonii, *Bp. Consp. Gen. Av.* i. p. 122 (1850); *id. Consp. Voluer. Zygod.* p. 9, no. 141 (1854); *Reichenb. Scans. Picinæ*, p. 419, no. 984, pl. dclxx. fig. 4441 ♂ (1854).

Chrysoptilus melanochloros, *Reichenb. Scans. Picinæ*, p. 420, no. 987 pl. dclxxl. figs. 4444–45, ♀ ♀ (1854).

Chrysopicus melanochlorus, *Malh. Bull. Soc. d'Hist. Nat. Moselle*, 1857, p. 11; *id. Picidæ*, ii. p. 187, pl. lxxxvii. bis, figs. 4, 5, ♂ ♀ (1862).

Chrysopicus chlorozostus, *Malh. Picidæ*, ii. p. 183, pl. lxxxvii. bis, figs. 1, 2, ♂ ♀ (1862).

Chrysoptilus chlorozostus, *Scl. Cat. Amer. B.* p. 340, no. 2031 (1862), pt.; *Pelz. Orn. Bras.* p. 249 (1870); *Berl. & Jhering, in Madar. Zeitschr. ges Orn.* 1885, p. 158.

Chrysoptilus cristatus (pt.), *Cab. & Heine, Mus. Hein.* iv. p. 165 (1863); *Gray, List Picid. Brit. Mus.* p. 93 (1868); *id. Hand-l. B.* ii. p. 195, no. 8740 (1870).

Adult male. Back and scapulars bright yellowish olive barred with black; the rump and upper tail-coverts golden yellow, the former with varied spots of black, the latter having an apical V-shaped marking and basal bars of black; wing-coverts rather browner than the back, with an apical heart-shaped spot and basal bars of black, the lesser series black with golden-olive margins only; quills blackish brown, the outer webs (except the apical portion of the primaries) spotted with golden olive, the inner webs of the primaries margined with greyish white at the base, those of the secondaries spotted with white on the margin, the innermost feathers barred with olive across both webs; shafts yellow, brownish at the base; tail black, the central pair of feathers transversely spotted with yellowish brown at the base, the outer large feather barred across with smoky buff, the shaft being yellow, the other shafts black or brownish; nasal plumes, forehead, and crown black; occiput, nape, and malar stripe crimson; face yellowish white; chin, throat, and fore neck yellowish white striated with black; side of the neck, hind neck, chest, and breast yellowish olive, becoming yellower on the remaining underparts and under tail-coverts, the whole being covered with rounded or heart-shaped spots of black; under wing-coverts golden buff, the axillaries golden yellow. Total length 11·5 inches, culmen 1·17, wing 5·8, tail 4·2, tarsus 1·06; toes (without claws)—outer anterior 1·03, outer posterior 1, inner anterior 0·75, inner posterior 0·52.

Adult female. Differs from the adult male in having the malar region black with stripe-like spots of white. Total length 11 inches, culmen 1·15, wing 5·55, tail 3·9, tarsus 1.

Hab. Southern provinces of Brazil (Minas Geraes to Rio Grande do Sul) and Paraguay.

a. ♀ ad. st.	South America.	Lord Stuart de Rothsay [P.].
b. ♀ ad. sk.	South America.	J. Gould, Esq. [P.].
c. ♂ ad.; *d*, *e*. ♀ ad. sk.	Brazil.	Sclater Coll.
f. ♀ ad. sk.	Brazil.	Gould Coll.
. ♂ ad. sk.	Minas Geraes, Brazil (*Rogers*).	Sclater Coll.
h. ♂ ad. sk.	Novo Fribourgo, Rio Janeiro (*J. Vouds*).	Salvin-Godman Coll.
i, *k*. ♂ ♀ imm. sk.	Pelotas, Rio Grande do Sul (*Joyner*).	Salvin-Godman Coll.
l. ♂ ad. sk.	Rio Grande, Brazil.	Tweeddale Coll.

2. Chrysoptilus cristatus.

Chrysoptilus cristatus, *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 98 (1818); *Cab. & Heine, Mus. Hein.* iv. p. 165 (1863), pt.; *Scl. & Salv. Nomencl. Av. Neotr.* p. 100 (1873); *Lee, Ibis*, 1873, pp. 132, 134; *Gibson, op. cit.* 1880, p. 11; *White, P. Z. S.* 1882, p. 618; *Dalgl. Proc. R. Phys. Soc. Edinb.* 1884, p. 86; *Gibson, Ibis*, 1885, p. 282; *Withingt. Ibis*, 1888, p. 468; *Scl. & Huds. Arg. Orn.* ii. p. 21 (1889).

Chrysoptilus chlorozostus (*non Wagl.*), *Licht. Nomencl. Av.* p. 76 (1854); *Scl. & Salv. P. Z. S.* 1868, p. 143; *Huds. op. cit.* 1870, p. 158.

Chrysopicus melanolaimus*, *Malh. Picidæ*, ii. p. 185, pl. lxxxix. figs. 7, 8, ♂ ♀ (1862).

Chrysoptilus melanolæmus, *Scl. Cat. Amer. B.* p. 340, no. 2033 (1862); *Cab. & Heine, Mus. Hein.* iv. p. 165 (1863).

Picus chlorozostus (*non Wagl.*), *Sundev. Consp. Av. Picin.* p. 75 (1866).

Picus melanolæmus (*ex Malh.*), *Sundev. Consp. Av. Picin.* p. 76 (1886).

Chrysoptilus melanolaimus, *Gray, List Picid. Brit. Mus.* p. 93 (1868); *id. Hand-l. B.* ii. p. 195, no. 8736 (1870).

Chrysoptilus chrysomelas (*non Malh.*), *Gray, List Picid. Brit. Mus.* p. 92 (1868); *id. Hand-l. B.* ii. p. 195, no. 8734 (1870).

Colaptes leucofrenatus, *Leybold, Leopoldina*, 1873, viii. p. 53; *Von Martens, J. f. O.* 1875, p. 445.

Picus leucophrenatus, *Gieb. Thes. Orn.* iii. p. 162 (1876).

Adult male. Bears a great resemblance to *C. melanochlorus* as regards the pattern of the plumage, but is very distinct in colouration. The present species differs in having the ground-colour of

* Under this name Malherbe has described a bird from Bolivia as allied to *C. cristatus*, but differing from it by having in the adult stage a uniform black throat. The type is in the British Museum, and although it cannot be denied that the throat is blacker than in typical *C. cristatus*, still it is striped with white, and not uniform, and I am not disposed to accord it a specific title. Malherbe (Picidæ, ii. p. 185) mentions having seen four examples (which he supposes were collected by D'Orbigny, but which bear no indication as to the exact locality) in the Paris Museum; I have searched for these, but cannot find a trace or record of them; so probably they no longer exist in that Museum.

the back and scapulars pale yellow; the ground-colour of the rump yellowish white, and of the upper tail-coverts white, the black markings on the former being V-shaped and crescentic instead of spots; the outer large tail-feather very narrowly barred with pale buff, the bars about one quarter of the width of the deep black interspaces; anterior half of the face buffy white, the posterior half buff; chin and throat with at most only a tinge of yellow, broadly striped with black; behind the crimson malar region a longitudinal spot of black; the under surface of the body yellowish white, the chest conspicuously washed with orange, the under tail-coverts white, the black spots upon these parts very much larger and upon the flanks and thighs more transverse; the light markings on the wing-coverts and exposed portions of the quills white, more or less tinged with buff or yellow; the shafts of the quills bright golden yellow to the base: "iris dark brown" (*E. W. White*). Total length 11·5 inches, culmen 1·6, wing 6·03, tail 3·8, tarsus 1·16; toes (without claws)—outer anterior 1·02, outer posterior 0·93, inner anterior 0·7, inner posterior 0·5.

The younger male has the face white, and lacks the uniform black longitudinal spot or stripe behind the red malar region, the feathers being striated with yellow or yellowish white on the margins.

Adult female. Wants the red on the malar region, this being black spotted with greyish white, the posterior portion of the stripe uniform black. Total length 11·3 inches, culmen 1·45, wing 5·8, tail 3·8, tarsus 1·12.

Hab. Argentine Republic, Uruguay, and the extreme southern part of Brazil; Chili and Bolivia.

a. ♀ ad. sk.	Rio Parana, Arg. Rep. April 14, 1876.	H. Durnford, Esq. [C.].
b. ♂ ad. sk.	Gualeguaychu, Arg. Rep.	Sclater Coll.
c. ♀ ad. sk.	Paysandu, Arg. Rep., Aug.	Alan Peel, Esq. [C.].
d. ♂ ad. sk.	Uruguay, Aug.	Alan Peel, Esq. [C.].
e. ♂ imm. sk.	Monte Video (*Johnston*).	Salvin-Godman Coll.
f. ♀ imm. sk.	Vicinity of Buenos Ayres (*Haslehurst*).	Salvin-Godman Coll.
g, h. ♂ ♀ ad. sk.	Conchitas, Buenos Ayres, Oct. (*W. H. Hudson*).	Sclater Coll.
i. ♂ imm. sk.	Punta Lara, Buenos Ayres, Dec. 1876.	H. Durnford, Esq. [C.].
k. ♂ ad. sk.	La Plata.	Sclater Coll.
l, m. ♂ ♀ ad. sk.	Cordova, Arg. Rep., July, Dec. (*E. W. White*).	Salvin-Godman Coll.
n. ♂ ad. sk.	Mendoza, Arg. Rep., Feb. (*Weisshaupt*).	Salvin-Godman Coll.
o. ♂ ad.; *p, q.* ♀ ad.; *r.* ♂ imm. st.	Bolivia.	T. Bridges [C.].
s. ♂ ad. sk.	Chili.	Zoological Society.
t. ♀ ad. sk.	Chili, July 1849 (*Admiral Bowles*).	Gould Coll.

3. Chrysoptilus icteromelas.

Picus icteromelas, *Vieill. N. Dict.* xxvi. p. 84, ♂ (1818); *id. & Bonn. Enc. Méth.* iii. p. 1313 (1823); *Wagl. Syst. Av.* Picus, sp. 43 (1827); *Drap. Dict. Class.* xiii. p. 503 (1828); *Sundev. Consp. Av. Picin.* p. 74 (1866).

Picus nattereri *, *Malh. Mém. Soc. Roy. Liége*, 1845, p. 66.

Chrysoptilus icteromelas, *Bp. Consp. Gen. Av.* i. p. 122 (1850); *id. Consp. Volucr. Zygod.* p. 9, no. 140 (1854); *Reichenb. Scans. Picinæ*, p. 421, no. 988, pl. dclxxi. fig. 4446, ♂ ad. (1854); *Cab. & Heine, Mus. Hein.* iv. p. 164 (1863); *Gray, List Picid. Brit. Mus.* p. 92 (1868); *id. Handl-l. B.* ii. p. 195, no. 8733 (1870); *Pelz. Orn. Bras.* p. 248 (1870); *Scl. & Salv. Nomencl. Av. Neotr.* p. 100 (1873).

Dendromus meriani, *Hartl. Syst. Orn. W.-Afr.* p. 181 (1857)†.

Chrysopicus icteromelas, *Malh. Picidæ*, ii. p. 182, pl. lxxxviii. figs. 1 ♂, 2 ♀ ad. (1862).

Adult female. Back, scapulars, rump, and upper series of upper tail-coverts bright yellowish olive, the lower series of the upper tail-coverts less yellow, the whole being barred with black; wing-coverts and quills brownish black, the coverts barred, the outer webs of the quills spotted and the inner feathers barred across both webs with drab-brown more or less washed with olive-yellow; the inner webs of the quills spotted with white, and the shafts entirely golden yellow; tail black, the six central feathers more or less barred at the base with buffy yellow and having black shafts, the two outer large feathers on either side entirely barred with yellowish buff and having golden shafts; upper nasal plumes, forehead, and crown black; occiput and nape scarlet, the hind neck yellowish olive with longitudinal spots and bars of black; lower nasal plumes and anterior half of face nearly white, the posterior half buff; malar region striped greyish white and black; chin, throat, and fore neck yellowish white narrowly striped with black; side of the neck, the whole of the under surface of the body yellow spotted with black, the spots almost entirely heart-shaped, but on the abdomen very minute, and on the thighs somewhat V-shaped or transverse; under tail-coverts pale yellow barred with black; under wing-coverts and axillaries golden pale buff. Total length 8·7 inches, culmen 1·1, wing 5, tail 3·2, tarsus 0·9; toes (without claws)—outer anterior 0·82, outer posterior 0·75, inner anterior 0·58, inner posterior 0·42.

Adult male. "Has the malar stripe red, but otherwise resembles the adult female. Total length 9·4–9·8 inches, bill to gape 0·95–1·15, wing 4·9, tail 3·3, tarsus 0·75." (*Malherbe.*)

Hab. Brazil (Southern part of the Provinces of Matto Grosso and Goyaz).

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* Malherbe in his Monograph (ii. p. 182) expresses a belief that his *P. nattereri* and *P. icteromelas* of Vieillot are identical, at the same time admitting that he has never seen the latter species. Judging from Malherbe's description of *P. nattereri*, I should have been inclined to refer it to *C. melanochlorus*, with which it agrees better; but as the latter species was apparently well known to Malherbe, I presume that author's conclusions are correct.

† According to Malherbe this was founded on a "made-up" bird of the present species, said to have been obtained in Aguapim.

a. ♀ ad. sk.	Cuyaba, Brazil, Aug. (*J. Natterer*).	Sclater Coll.
b. ♀ ad. sk.	Chapada, Matto Grosso, March (*H. H. Smith*).	Salvin-Godman Coll.

4. Chrysoptilus chrysomelas.

Chrysopicus chrysomelas, *Malh. Picidæ*, ii. p. 189, pl. lxxxix. figs. 1, 2, ♂ ♀ (1862).

Chrysoptilus chrysomelas, *Cab. & Heine, Mus. Hein.* iv. p. 163 (1863).

Picus flavilumbis, *Sundev. Consp. Av. Picin.* p. 74 (1866).

Chrysoptilus flavilumbis, *Gray, List Picid. Brit. Mus.* p. 92 (1868); *id. Hand-l. B.* ii. p. 195, no. 8739 (1870); *Salv. Cat. Strickl. Coll.* p. 396, no. 1939 (1882).

Adult male. Very closely resembles *C. icteromelas*, but differs in having the rump uniform bright yellow, or sometimes spotted with black, not barred; the abdomen uniform, and the exposed black markings on the thighs being heart-shaped or varied spots and not black bars. Total length 10 inches, culmen 1·25, wing 5·05, tail 3·6, tarsus 0·9; toes (without claws)—outer anterior 0·82, outer posterior 0·75, inner anterior 0·55, inner posterior 0·35.

Adult female. Wants the red on the malar region, this being greyish white striped with black. Total length 10 inches, culmen 1·18, wing 5·3, tail 3·75, tarsus 0·88.

Young female. Differs from the adult of the same sex in having the plumage almost devoid of yellow, there being only a slight tinge of this colour on the back and rump and also on the chest; the under surface of the body and the under wing-coverts are more of a buffy white, the former having the faintest tinge of yellow; the shafts of the quills are white or nearly so; the crest is of a washed-out scarlet.

Hab. East Brazil (Bahia, north to Pernambuco).

a. ♀ ad. st.	Brazil.	Zoological Society.
b. ♂ ad.; *c. d*. ♀ ad.; *e. f*. ♂ ♀ imm. sk.	Brazil.	Tweeddale Coll.
g, h. ♂ ♀ ad. sk.	Brazil.	Sclater Coll.
i. ♀ imm. sk.	Pernambuco, Brazil.	Sclater Coll.
k, l. ♂ ♀ ad.; *m*. ♂ imm. sk.	Bahia, Brazil (*Dr. Wucherer*).	Salvin-Godman Coll.

5. Chrysoptilus mariæ.

Chrysoptilus mariæ, *Hargitt, Ibis*, 1889, p. 59.

Adult male. Back, scapulars, and wing-coverts olivaceous yellow broadly barred with black; rump and upper tail-coverts yellow with heart-shaped spots of black; quills brownish black, the primaries spotted with dull yellow on the outer webs, the inner webs more or less margined and scalloped with white; the outer webs of the secondaries barred with dull yellow, the inner webs having mar-

ginal white spots, the inner secondaries barred with dull yellow across both webs; shafts golden yellow: tail brownish black, the central feathers at the base and the lateral ones along their whole length barred with buffy white tinged with yellow; shafts golden yellow, those of the central feathers blackish brown at the tip; upper nasal plumes, forehead, and crown black; occiput and nape crimson; lower nasal plumes and face golden white, with a broad crimson malar stripe; chin and throat pale yellow narrowly striated with black; side of the neck greenish yellow, the fore neck and the entire under surface of the body bright yellow, the whole being covered with rounded spots of black; under tail-coverts yellow with heart-shaped spots of brownish black; under wing-coverts pale buff washed with yellow; axillaries bright yellow. Total length 8·5 inches, culmen 1·05, wing 4·5, tail 2·8, tarsus 0·9; toes (without claws)—outer anterior 0·67, outer posterior 0·62, inner anterior 0·47, inner posterior 0·3.

Hab. North-east Peru (Chamicuros).

6. Chrysoptilus punctigula.

Le Petit Pic rayé de Cayenne, *Buff. Hist. Nat. Ois.* vii. p. 374 (1783).

Pic rayé de Cayenne, *Daubent. Pl. Enl.* 613, ♀ (1783).

Picus punctigula, *Bodd. Tabl. Pl. Enl.* p. 37, no. 613.

Picus cayennensis, *Gm. Syst. Nat.* i. p. 428 (1788); *Burm. Th. Bras.* ii. p. 243 (1856).

Picus cayanensis, *Lath. Ind. Orn.* i. p. 239 (1790).

Picus guttulatus, *Wagl. Syst. Av.* Picus, sp. 87 (1827).

Chrysoptilus cayennensis, *Swains. Classif. B.* ii. p. 308 (1837); *Bp. Consp. Gen. Av.* i. p. 122 (1850), pt.: *Reichenb. Scans. Picinæ*, p. 420, no. 968, pl. dclxxi. figs. 4442–43, ♂ ♂ ad. (1854); *Bp. Consp. Volucr. Zygod.* p. 9, no. 138 (1854).

Chrysoptilus cayanensis, *Gray, List Gen.* 1840, p. 54.

Chrysoptilus punctigula, *Gray, Gen. B.* ii. p. 440 (1846); *Cab. & Heine, Mus. Hein.* iv. p. 162 (1863); *Gray, List Picid. Brit. Mus.* p. 91 (1868); *id. Hand-l. B.* ii. p. 195, no. 8731 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 100 (1873), pt.; *Salv. Cat. Strickl. Coll.* p. 397, no. 1940 (1882).

Chrysopicos cayennensis, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 354.

Chrysoptilus punctigularis, *Sclat. Cat. Amer. B.* p. 340, no. 2029 (1862), pt.

Picus punctigularis, *Sundev. Consp. Av. Picin.* p. 73 (1866).

Adult male. Back, scapulars, and upper tail-coverts deep golden olive narrowly barred with black, the rump more golden yellow and spotted with black; wing-coverts, both webs of inner secondaries, and outer webs of all the other quills, except the apical portion of the outer primaries, golden olive barred with black; the inner webs brownish black, notched or transversely spotted on the margin with white or smoky white; shafts golden yellow; tail black, the lateral feathers narrowly barred with buffy brown; shafts of the two outer large feathers yellow, those of the others brown; nasal plumes,

forehead, and crown black, some of the feathers slightly tipped with red; occiput, nape, and large malar stripe crimson; lores and side of the face white; chin and throat black spotted with white, the black ground greatly predominating; side of the neck, chest, and breast olive, grading into yellow on the remaining underparts and under tail-coverts, the whole (except the abdomen which is uniform) being spotted with black, and some of the chest-feathers tipped with red; under wing-coverts and axillaries dull golden buff. Total length 6·8 inches, culmen 0·93, wing 4·1, tail 2·45, tarsus 0·83; toes (without claws)—outer anterior 0·7, outer posterior 0·7, inner anterior 0·5, inner posterior 0·3.

Adult female. Differs from the adult male in wanting the red on the malar region, this being black minutely spotted with white; the black feathers of the forehead and crown always devoid of red tips. Total length 7 inches, culmen 0·85, wing 3·9, tail 2·4, tarsus 0·82.

The younger female has the malar region black, without white spots.

Hab. Cayenne, and west into Demerara and Trinidad.

a, b. ♂ ad. st.	Trinidad.	Zoological Society.
c. ♂ ad. sk.	S. America.	Purchased.
d. ♂ ad. sk.	Demerara.	Purchased.
e. ♂ ad. sk.	Cayenne.	Sclater Coll.

7. Chrysoptilus guttatus.

Picus guttatus, *Spix, Av. Bras.* i. p. 61, pl. liii. fig. 1, ♂ (1824).

Chrysoptilus guttatus, *Swains. Classif. B.* ii. p. 308 (1837); *Gray, Gen. B.* ii. p. 440 (1846).

Chrysoptilus cayennensis, *Bp. Consp. Gen. Av.* i. p. 122 (1850), pt.

Chrysoptilus guttifer, *Reichenb. Scans. Picinæ*, p. 420, no. 986 *b* (1854).

Chrysoptilus punctigula (*non Bodd.*), *Sclat. P. Z. S.* 1855, pp. 33, 161; *Pelz. Orn. Bras.* p. 248 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 100 (1873), pt.

Chrysopicus cayennensis (*non Gm.*), *Malh. Picidæ*, ii. p. 179, pl. lxxxvii. figs. 4, 5, ♂ ♂, 6, ♀ (1862).

Chrysopicus guttifer (*ex Reichenb.*), *Malh. Picidæ*, ii. p. 181 (1862).

Chrysoptilus punctigularis, *Sclat. Cat. Amer. B.* p. 340, no. 2029 (1862), pt.; *Cav.-Tayl. Ibis*, 1864, p. 93; *Sclat. & Salv. P. Z. S.* 1866, p. 197, 1873, p. 291.

Chrysoptilus speciosus*, *Sclat. MS.*; *id. Cat. Amer. B.* p. 340, no. 2030 (1862); *id. P. Z. S.* 1867, p. 979; *Gray, List Picid. Brit. Mus.* p. 91 (1868); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 100 (1873).

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* Malherbe gets the credit of having described *C. speciosus* in his Monograph. All that he has done is (after giving a translation of Reichenbach's characters of his *Chrysoptilus guttifer*) to ask if it be not the same as Sclater's *speciosus*, of which he gives a figure on plate lxxxvii. The figure should be 5, not 6, as stated on the plate (see text under *C. guttifer*, Malh. Picidæ, ii. p. 181).

Malherbe, under the above heading, distinctly states that he considers Sclater's *C. speciosus* to be a variety of *C. cayanensis* of the Monograph.

Chrysoptilus punctipectus, *Cab. & Heine, Mus. Hein.* iv. p. 163 (1863); *Gray, List Picid. Brit. Mus.* p. 92 (1868); *id. Hand-l. B.* ii. p. 195, no. 8732 (1870); *Salv. Cat. Strickl. Coll.* p. 397, no. 1941 (1882); *Tacz. Orn. Pérou*, iii. p. 88 (1886).
Picus punctipectus, *Sundev. Consp. Av. Picin.* p. 74 (1866).

Adult male. Resembles *C. punctigula* of Boddaert, but differs in having the chin and throat white striped with black, the stripe expanding at the base and on the tips of the feathers. In younger birds the white is less developed and appears as a spot on the web, but in the adult the extent of the white marginal spots reduces the black to a distinct stripe; the underparts below the chest are of a brighter yellow, and the upper tail-coverts more spotted than barred; the measurements are also greater. Total length 8 inches, culmen 0·95, wing 4·25, tail 2·55, tarsus 0·83; toes (without claws) —outer anterior 0·7, outer posterior 0·7, inner anterior 0·52, inner posterior 0·33.

Adult female. Differs from the adult male in having the malar region black longitudinally spotted with white. Total length 8 inches, culmen 0·88, wing 4·38, tail 2·65, tarsus 0·82.

Young (sex ?). Has the malar stripe black, or with at most a few almost obsolete white specks: the chin and throat black, spotted with white; the underparts duller, and no red on the chest-feathers; no red on the feathers of the forehead and crown, and the red occipital band narrower.

Hab. Upper Amazon region, into North-east Peru, and North into the U.S. of Colombia, and Venezuela.

a. ♂ ad.; *b*, *c*. ♀ ad.; *d*. ♀ imm. sk.	U.S. Colombia.	Tweeddale Coll.
e. ♂ ad.; *f*. ♂ juv. sk.	Bogotá.	Sclater Coll.
g. ♂ ad. sk.	New Granada.	Salvin-Godman Coll.
h. ♂ ad. sk.	Remedios, U.S. Colombia (*T. K. Salmon*).	Salvin-Godman Coll.
i. ♂ ad. sk.	Santa Marta, U.S. Colombia.	Tweeddale Coll.
k. ♂ ad. sk.	Upper Amazons.	Sclater Coll.
l. ♂ ad. sk.	Pebas, E. Peru, Dec. (*J. Hauxwell*).	Salvin-Godman Coll.
m. ♂ ad. sk.	Upper Ucayali, Peruvian Amazons, Aug. (*E. Bartlett*).	Salvin-Godman Coll.

8. Chrysoptilus atricollis.

Chrysopicos atricollis, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 355.
Chrysopicus atricollis, *Malh. Rev. et Mag. de Zool.* 1850, p. 156; *Bp. Consp. Volucr. Zygod.* p. 9, no. 142 (1854); *Malh. Picidæ*, ii. p. 178, pl. lxxxviii. fig. 4, ♂ (1862).
Chrysoptilus peruvianus, *Reichenb. Scans. Picinæ*, p. 419, no. 985, pl. dclxxx. figs. 4493–94, ♂ ♂ (1854).
Chrysoptilus atricollis, *Reichenb. Scans. Picinæ*, p. 430, no. 1015 *b*

(1854); *Cab. & Heine, Mus. Hein.* iv. p. 165 (1863); *Gray, List Picid. Brit. Mus.* p. 94 (1868); *Sclat. P. Z. S.* 1869, p. 148; *Gray, Hand-l. B.* ii. p. 195, no. 8741 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 100 (1873); *Tacz. P. Z. S.* 1880, p. 209, 1882, p. 42; *id. Orn. Pérou*, iii. p. 86 (1886).

Picus atricollis, *Sundev. Consp. Av. Picin.* p. 76 (1866).

Adult male. Back, scapulars, wing-coverts, outer webs of secondaries and partly of the primaries golden olive, all but the latter being narrowly barred with black, the primaries spotted with black; the remaining portion of the quills dark brown, on the inner webs grading into greyish or brownish white, the innermost feathers having more or less of the apical portion of the inner webs golden olive and barred with black; shafts yellow, the basal part washed with brown; rump and upper tail-coverts dull yellowish white barred with black; tail blackish brown, the central feathers margined with olive at the base, the central pair transversely spotted with brown on the basal half, the lateral feathers narrowly barred with buffy white and having golden shafts, the shafts of the remaining feathers being brown with yellowish bases; nasal plumes black; forehead, crown, occiput, nape, and malar stripe crimson *; face yellowish white; chin, throat, and fore neck uniform black; side of the neck and the entire underparts pale yellow barred with black, the bars on the abdomen almost obsolete; under wing-coverts and axillaries yellowish white, the edge of the wing transversely spotted with black. Total length 9·8 inches, culmen 1·25, wing 4·7, tail 3·75, tarsus 0·95; toes (without claws)—outer anterior 0·75, outer posterior 0·75, inner anterior 0·55, inner posterior 0·35.

Hab. Peru, from Lima northwards.

a. ♂ imm. sk.	Pacasmayo R., Peru (*J. Orton*).	Salvin-Godman Coll.
b. ♂ ad. sk.	Lima, Peru (*Nation*).	Sclater Coll.

8. CHRYSOPHLEGMA.

	Type.
Chrysophlegma, *Gould, B. Asia*, vi. pl. xxxvi. (1849)..	C. flavinucha.
Chloropicos, *Malh. Mém. Acad. Metz*, 1848-49, p. 350.	C. flavinucha.
Calopicus, *Malh. Introd. Monogr. Picid.* p. liii. (1861) .	C. flavinucha.

Range. The Himalayan Provinces; Assam; Cachar; south into Burmah and Cochin China, and through the Malayan Peninsula into the Islands of Sumatra, Bangka, Java, and Borneo.

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* Dr. Taczanowski (Orn. Pérou, iii. pp. 86, 87, 1886) describes the adult male as having the crown plumbeous, and the young as having the feathers of this region tipped with red. I certainly think that the adult male has the crown-feathers tipped with red; the young may be similar, but I have not seen such examples as would justify my hazarding an opinion on this latter point. I have never seen a female, neither can I find any description of one, although Dr. Taczanowski gives (in the work above quoted) the measurements of a specimen of that sex, but without any further information.

Key to the Species.

A. Underparts crossed by wavy lines of brownish black.
  a'. Upper parts strongly washed with red; yellow nuchal crest also more or less washed with red.
    a''. Forehead and entire face more or less reddish, and, together with the chin and throat, nearly uniform..... *miniatum* ♂ ad., p. 121.
    b''. Forehead and fore part of the face brown, and, together with the chin and throat, distinctly spotted with blackish brown and buffy white .... *miniatum* ♀ ad., p. 122.
  b'. Upper parts green varied with yellow, and having at most only a few spots of red; nuchal crest entirely yellow.
    c''. Forehead and entire face more or less red, and, together with the chin and throat, nearly uniform ..... *malaccense* ♂ ad., p. 123.
    d''. Forehead and fore part of the face brown, and, together with the chin and throat, distinctly spotted with blackish brown and buffy white .... *malaccense* ♀ ad., p. 123.

B. Underparts uniform.
  c'. Sides of the neck and the chest rufous.
    e''. Chin and throat black spotted with white.
      a'''. Malar region black spotted with white..... *mentale* ♂ ad., p. 125.
      b'''. Malar region rufous..... *mentale* ♀ ad., p. 125.
    f''. Chin and throat striped black and white.
      c'''. Malar region dusky brown spotted with white ..... *humii* ♂ ad., p. 126.
      d'''. Malar region rufous ..... *humii* ♀ ad., p. 126.
  d'. Sides of the neck, likewise the chest, olive.
    g''. Throat or fore neck varied with white.
      e'''. Larger: length 13 inches, wing 6·15 to 6·63.
        a^4. Feathers of the fore neck white, the apex being occupied by a large spot (more or less triangular) of olive-black.
          a^5. Chin, throat, and malar region lemon-yellow ..... *flavinucha* ♂ ad., p. 128.
          b^5. Chin and malar region rufous, the throat like the fore neck .. *flavinucha* ♀ ad., p. 128.
        b^4. Feathers of the fore neck dull olive, with a narrow rufous apical margin and a broad basal margin of white, forming a large spot upon each web.
          c^5. Chin and malar region pale yellow ..... *pierrii* ♂ (ad.?), p. 130.
          d^5. Chin and malar region rufous, the throat like the fore neck .. *pierrii* ♀ ad., p. 130.

f'''. Smaller: length 10·5 inches, wing 5·6; feathers of the throat margined with white, except at the tip, and having a broad black median stripe expanding about midway; malar region rufous (male unknown) .... *wrayi* ♀ ad., p. 130.

h''. Throat and fore neck not varied with white.

g'''. Malar region yellow ..... *mystacale* ♂ ad., p. 131.

h'''. Malar region rufous ..... *mystacale* ♀ ad., p. 131.

1. Chrysophlegma miniatum.

Picus miniatus, *Forst. Ind. Zool.* p. 14, pl. iv. (1781); *Lath. Syn.* i. pt. 2, p. 595 (1782); *Gm. Syst. Nat.* i. p. 432 (1788); *Lath. Ind. Orn.* p. 241 (1790); *Penn. Ind. Zool.* p. 39, pl. vi. (1790); *Shaw, Gen. Zool.* ix. p. 210, pl. xxxv. (1815); *Horsf. Trans. Linn. Soc.* xiii. p. 176 (1821); *Lath. Hist. B.* iii. p. 361 (1822); *Gray & Hardw. Ill. Ind. Zool.* i. pl. xxx. fig. 1 (1830–32); *Less. Traité*, i. p. 222 (1831).

Picus miniatus (pt.), *Wagl. Syst. Av.* Picus, sp. 98 (1827); *Vig. Mem. Raffl.* p. 669 (1830); *Sundev. Consp. Av. Picin.* p. 59 (1866).

Malacolophus (Brachylophus) miniatus, *Swains. Classif. B.* ii. p. 308 (1837).

Gecinus miniatus (pt.), *Gray, Gen. B.* ii. p. 439 (1846); *id. List Picid. Brit. Mus.* p. 75 (1868); *id. Hand-l. B.* ii. p. 191, no. 8682 (1870).

Chloropicos miniatus (pt.), *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 350.

Venilia miniatus (pt.), *Bp. Consp. Gen. Av.* i. p. 128 (1850); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 664 (1856–58).

Brachylophus miniatus, *Strickl. P. Z. S.* 1841, p. 31; *Bp.* (pt.) *Consp. Volucr. Zygod.* p. 10 (1854).

Venilia miniata (pt.), *Reichenb. Scans. Picinæ*, p. 358, no. 830, pl. dcxxix. figs. 4184–85 (1854).

Chloropicus miniatus (pt.), *Malh. Picidæ*, ii. p. 116, pl. lxxvi. figs. 1, 2 (1862).

Chrysophlegma miniatum, *Hargitt, Ibis*, 1886, p. 273.

Adult male. Upper and middle back, scapulars, wing-coverts, outer webs of secondaries and more or less of the basal portion of the primaries carmine, the back having spots and transverse markings of yellow; lower back and rump lemon-yellow, with olive bar-like markings and whitish spots, the lower back tinged with red; upper tail-coverts blackish brown spotted with white; inner webs of quills and outer webs of primaries (except at the base) brown, spotted with buff (except on the apical portion of the inner webs); shafts of primaries brown, those of the secondaries black; tail nearly black, with black shafts; nasal plumes brown; forehead, crown, and occipital crest carmine, the bases of the feathers buffy brown; nuchal crest yellow washed with red; hind neck barred olive and buff washed with red; sides of the face and neck brownish buff spotted with pale red, the lower side of the neck transversely varied with dusky brown; chin and throat buff with a few almost obsolete

brown spots; fore neck and chest buff, the remaining under surface of the body whiter, the whole being crossed by zigzag markings of dusky brown; under tail-coverts blackish brown barred with buffy white; under wing-coverts dusky olive-brown, barred and spotted with dull white. Total length 9 inches, culmen 1·2, wing 5·2, tail 3·15, tarsus 1; toes (without claws)—outer anterior 0·83, outer posterior 0·8, inner anterior 0·58, inner posterior 0·35.

Adult female. Differs from the adult male in having the forehead, face, neck, and chest covered with minute rounded spots of blackish brown and buffy white. Total length 9 inches, culmen 1·07, wing 5, tail 3·1, tarsus 0·92.

Hab. Confined to the Island of Java.

a. Ad. st.	Java.	J. Inskipp, Esq. [P.].
b. ♂ ad. sk.	Java (*Horsfield*).	India Museum.
c. ♂ ad. sk.	Java.	Gould Coll.
d. ♂ ad. sk.	Java.	Wallace Coll.
e. ♂ ad. sk.	E. Java (*A. R. Wallace*).	Tweeddale Coll.
f, *g*. Skeletons.	Java.	Purchased.

2. Chrysophlegma malaccense.

Le Pic de Malacca, *Sonn. Voy. Ind.* ii. p. 211 (1782).
Malaccan Woodpecker, *Lath. Syn. Suppl.* p. iii. (1787).
Picus malaccensis, *Lath. Ind. Orn.* i. p. 241 (1790); *id. Hist. B.* iii. p. 362 (1822); *Drap. Dict. Class. Hist. Nat.* xiii. p. 500 (1828); *Blyth, J. A. S. B.* xiv. p. 192 (1845).
Picus miniatus (*non Forst.*), *Shaw & Nodd. Nat. Misc.* xi. pl. ccccxiii. (1800).
Chrysonotus miniatus (*non Forst.*), *Eyton, P. Z. S.* 1839, p. 106.
Gecinus miniatus (pt.), *Gray, Gen. B.* ii. p. 439 (1846); *id. List Picid. Brit. Mus.* p. 75 (1868); *id. Hand-l. B.* ii. p. 191, no. 8682 (1870).
Chloropicos miniatus (pt.), *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 350.
Gecinus malaccensis, *Blyth, Cat. B. Mus. As. Soc.* p. 59 (1849).
Gecinus miniatus, *Blyth, Cat. B. Mus. As. Soc., App.* p. 336 (1849).
Venilia miniatus (pt.), *Bp. Consp. Gen. Av.* i. p. 128 (1850); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 664 (1856–58).
Venilia miniata, *Reichenb. Handb. Scans. Picinæ*, p. 358, no. 830, pl. dcxxix. figs. 4184–85, ♂ ♀ (1854) (pt.); *Moore, P. Z. S.* 1859, p. 456.
Brachylophus miniatus (pt.), *Bp. Consp. Volucr. Zygod.* p. 10 (1854).
Chloropicus miniatus (pt.), *Malh. Picidæ*, ii. p. 116, pl. lxxvi. figs. 1, 2 (1862).
Chrysophlegma miniata, *Jerd. B. Ind.* i. p. 291 (1862); *Hume, Str. F.* 1873, p. 450; *id. op. cit.* 1874, p. 472.
Venilia malaccensis, *Sclat. P. Z. S.* 1863, p. 211 *.
Chrysophlegma malaccensis, *Stoliczka, J. A. S. B.* 1870, p. 292; *Wald. Ibis*, 1871, p. 165; *Hume, Str. F.* 1875, p. 324.
Callolophus malaccensis, *Salvad. Ucc. Born.* p. 50 (1874); *Sharpe,*

* In this paper Dr. Sclater clearly points out the differences between this species and its ally *C. miniatum*.

P. Z. S. 1875, p. 103; *id. Ibis*, 1876, p. 35; *Tweedd. op. cit.* 1877, p. 289; *Hume & Davison, Str. F.* vi. pp. 140, 510 (1878); *Hume, op. cit.* 1879, p. 52; *Sharpe, Ibis*, 1879, p. 242; *Salvad. Ann. Mus. Civ. Genov.* xiv. p. 182 (1879); *Oates, B. Brit. Burm.* ii. p. 47 (1883); *Salvad. Ann. Mus. Civ. Stor. Nat. Genov.* 1887, p. 530.

Picus miniatus (pt.), *Vigors, Mem. Raffl.* p. 669 (1830); *Sundev. Consp. Av. Picin.* p. 59 (1866).

Chrysophlegma malaccense, *Hargitt, Ibis*, 1886, p. 276; *Sharpe, P. Z. S.* 1887, p. 442.

Adult male. Resembles *C. miniatum*, but may be distinguished by having the back olive, with irregular transverse or zigzag markings of yellow, and only a few spots or blotches of red; the yellow nuchal crest not washed with red. Total length 10·25 inches, culmen 1·1, wing 4·8, tail 2·7, tarsus 0·9; toes (without claws)—outer anterior 0·78, outer posterior 0·75, inner anterior 0·55, inner posterior 0·4.

Young male. Has the upper parts dusky green, the upper part of the back without any of the irregular transverse markings of yellow, the tips, only, of the feathers being of the latter colour; the forehead and crown dusky brown, the feathers having dusky tips; occipital crest dull red, and the nuchal crest pale yellow; the face with faint dusky transverse markings, the side of the neck and the chest having these markings more pronounced, the chin and throat uniform. In other respects the coloration and markings resemble those of the adult, but the former is duller and the latter are fainter.

Adult female. Resembles the adult male, but has the forehead, face, chin, and throat spotted with buffy white, and the latter region with blackish brown: "legs and feet pale dirty green, claws horny green; lower mandible bluish white, upper mandible horny black; irides red; eyelids dark grey" (*W. Davison*). Total length 10·6 inches, culmen 1·1, wing 4·8, tail 2·6, tarsus 0·87.

Nestling (sex ?). Resembles the young bird described, but has the feathers on the top of the head tipped with red; from the chin to the lower breast dingy brown, mottled with a lighter dingy rufous, the remaining underparts and the under tail-coverts dusky, with large, faint, and more or less triangular spots of dingy white or brownish white. It wants the reddish face of the adult male and the white spotted face of the adult female.

Hab. Southern Tenasserim and throughout the Malayan Peninsula; also Sumatra, Bangka, and Borneo.

a. ♂ ad. sk.	Tavoy, Tenasserim, Feb. 1879 (*W. Davison*).	Hume Coll.
b. ♂ ad. sk.	Mergui Islands, Dec. 7, 1874 (*W. Davison*).	Hume Coll.
c. ♀ ad. sk.	Tenasserim Town, Nov. 26, 1874 (*W. Davison*).	Hume Coll.
d. ♂ ad. sk.	Bopyin, Dec. (*W. Davison*).	Hume Coll.
e. ♂ ad.; *f, g, h.* ♀ ad.; *i, k.* ♂ juv. sk.	Bankasoon, March, May (*W. Davison*).	Hume Coll.

l, *m*, *n*. ♂ ad.; *o*, *p*. ♀ ad. sk.	Malewoon, Jan., Feb. (*W. Davison*).	Hume Coll.
q, *r*. ♀ ad.; *s*, *t*. ♂ ♀ imm. sk.	Kossoum, April, May, July (*J. Darling*).	Hume Coll.
u. ♂ ad. sk.	Tonkah, Jan. 31, 1879 (*J. Darling*).	Hume Coll.
v, *w*. ♂ ♀ ad. sk.	Taroar, Feb. 1879 (*J. Darling*).	Hume Coll.
x, *y*, *z*. ♂ ad.; *a'*, *b'*, *c'*. ♀ ad. sk.	Salang, Feb., March (*J. Darling*).	Hume Coll.
d'. ♀ ad. sk.	Perak Mts.	L. Wray, Esq. [P.].
e'–h'. ♂ ad.; *i'–l'*. ♀ ad.; *m'*. ♂ juv. sk.	Klang, Salangore, March, April, May (*W. Davison*).	Hume Coll.
n', *o'*. ♂ ad.; *p'*. Juv. sk.	Malacca (*Dr. Maingay*).	Tweeddale Coll.
q', *r'*, *s'*. ♀ ad. sk.	Malacca (*Dr. Cantor*).	India Museum.
t'. ♂ ad. sk.	Malacca (*R. G. W. R.*).	Tweeddale Coll.
u', *v'*. ♂ ♀ ad. sk.	Malacca, Jan. 1879 (*W. Davison*).	Hume Coll.
w'–a''. ♂ ad.; *b''–f''*. ♀ ad.; *g''*, *h''* ♂ ♀ imm.; *i''*. Juv. sk.	Malacca, Jan., July (*W. Davison*).	Hume Coll.
k'', *l''*, *m''*. ♂ ad.; *n''*. ♀ juv. sk.	Malacca, Aug. 1873 (*R. G. W. R.*).	Tweeddale Coll.
o''. ♂ ad.; *p''*, *q''*. ♂ imm.; *r''*. *s''*. ♂ ♀ juv. sk.	Nealys, Malacca, Oct. 1875 (*W. Davison*).	Hume Coll.
t''. ♀ ad. sk.	Kuroo, Malacca, Nov. 1, 1874 (*W. Davison*).	Hume Coll.
u''. ♂ ad. sk.	Jaffaria, Johore, March 20, 1880 (*W. Davison*).	Hume Coll.
v'', *w''*, *x''*. ♂ ad.; *y''*, *z''*, *a*³. ♀ ad. sk.	Gunnong Pulai, Johore, March, July, Aug. (*W. Davison*).	Hume Coll.
*b*³, *c*³. ♂ ad.; *d*³. ♂ juv. sk.	Johore, Aug. 1875 (*W. Davison*).	Hume Coll.
*e*³. ♀ ad. sk.	Singapore.	Gould Coll.
*f*³, *g*³. ♂ ♀ ad. sk.	Singapore Island, Oct. 27, 1879 (*W. Davison*).	Hume Coll.
*h*³. ♂ ad. sk.	Meklong, Siam.	H. C. V. Hunter, Esq. [P.].
*i*³. ♀ ad. sk.	Sumatra (*Raffles*).	India Museum.
*k*³. ♂ ad. sk.	Sumatra.	Wallace Coll.
*l*³–*r*³. ♂ ad. et juv.; *s*³, *t*³, *u*³. ♀ ad. sk.	Sumatra, Sept., Oct. (*Carl Bock*).	Tweeddale Coll.
*v*³, *w*³. ♂ ad. sk.	Lampong, S.E. Sumatra (*E. C. Buxton*).	Tweeddale Coll.
*x*³, *y*³. ♂ ♀ imm. sk.	Borneo.	Wallace Coll.
*z*³. ♂ ad. sk.	Borneo.	Rajah Brooke [P.].
*a*⁴. Imm. sk.	Borneo (*H. Low*).	Tweeddale Coll.
*b*⁴. ♀ ad.; *c*⁴. ♂ imm. sk.	Labuan.	R. B. Sharpe, Esq. [P.].
*d*⁴. ♂ ad. sk.	Sarawak (*A. Everett*).	Tweeddale Coll.
*e*⁴. ♀ imm. sk.	Banjermassing (*J. Mottley*).	Tweeddale Coll.

3. Chrysophlegma mentale.

Picus mentalis, *Temm. Pl. Col.* 384, ♂ (1826).
Picus gularis, *Temm. MS.*; ♂ *Wagl. Syst. Av.* Picus, sp. 89 (1827), nec ♀.
Picus squamicollis *, *Less. Traité*, i. p. 229 (1831).
Gecinus mentalis (pt.), *Gray, Gen. B.* ii. p. 439 (1846), & iii. *App.* p. 21 (1849); *id. List Picid. Brit. Mus.* p. 77 (1868); *id. Hand-l. B.* ii. p. 192, no. 8686 (1870).
Venilia mentalis, *Bp. Consp. Gen. Av.* i. p. 128 (1850).
Brachylophus mentalis, *Strickl. P. Z. S.* 1841, p. 31; *Bp. Consp. Volucr. Zygod.* p. 10 (1854).
Venilia gularis, *Reichenb. Scans. Picinæ*, p. 358, no. 827, pl. dcxxviii. figs. 4180, 4181 (1854).
Picus mentalis (pt.), *Sunder. Consp. Av. Picin.* p. 58 (1866).
Chloropicus mentalis (pt.), *Malh. Picidæ*, ii. p. 112, pl. lxxv. figs. 4, 5 (1862).
Chrysophlegma mentale, *Hargitt, Ibis*, 1886, p. 267.

Adult male. Back, rump, upper tail-coverts, and scapulars olive; wing-coverts, outer webs of secondaries and of inner primaries at their base bright indian-red, both webs of the quills, except the apical portion of the primaries, spotted with rufous, the innermost of the secondaries olive on their apical half or more; shafts brown; tail and the shafts black; nasal plumes dusky brown; forehead, crown, and occiput deep olive, some of the occipital feathers entirely or partially rufous; nuchal crest lemon-yellow; supercilium blackish, with minute white spots; face olive, the malar region, chin, and throat black, the exposed portion of the feathers having a white spot at the tip of each web, the lower feathers sometimes having the apical margin white instead of being spotted; region between the ear-coverts and the occiput, side of the neck, hind and fore neck, and upper part of chest rufous, the entire underparts and the under tail-coverts olive; under wing-coverts rufous, barred with dusky olive, the axillaries olive. Total length 11 inches, culmen 1·5, wing 5·6, tail 4·2, tarsus 0·9; toes (without claws)—outer anterior 0·8, outer posterior 0·65, inner anterior 0·6, inner posterior 0·35.

Adult female. Differs from the adult male in having the supercilium, the malar region, and the chin rufous. Total length 11 inches, culmen 1·45, wing 5·6, tail 4·2, tarsus 0·95.

Young, sexed female. Has no rufous stripe above the eye; the occipital feathers are more or less rufous and mostly tipped with dull red; malar region rufous, but with dusky transverse markings; the throat-feathers more dusky and margined on the apical portion with greyish white, very few being spotted.

Hab. Java.

a, *b*. ♂ ♀ ad. sk.	Java.	Gould Coll.
c, *d*. Skeletons.	Java.	Purchased.

* I have recently examined, in the Paris Museum, the specimen which I believe served as the type of this species, and find it to be the Javan *C. mentale*, and not the Malaccan species as I supposed. The latter I have named *C. humii*.

4. Chrysophlegma humii.

Picus gularis (*non Temm. MS.*), ♀ *Wagl. Syst. Av.* Picus, sp. 89 (1827), nec ♂.
Picus mentalis (*non Temm.*), *Vig. Mem. Raffl.* p. 668 (1830).
Gecinus mentalis (pt.), *Gray, Gen. B.* ii. p. 439 (1846), iii. *App.* p. 21 (1849); *id. List Picid. Brit. Mus.* p. 77 (1868); *id. Hand-l. B.* ii. p. 192, no. 8686 (1870).
Gecinus mentalis (*non Temm.*), *Blyth, Cat. B. Mus. As. Soc.* p. 59, no. 269 (1849); *Wall. Ann. & Mag. Nat. Hist.* 2nd ser. xv. p. 96 (1855).
Picus mentalis (pt.), *Sundev. Consp. Av. Picin.* p. 58 (1866).
Venilia mentalis (*non Temm.*), *Reichenb. Scans. Picinæ*, p. 358, no. 827, pl. dcxxviii. figs. 4178, 4179 (1854); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* p. 665, no. 970 (1856–58); *Moore, P. Z. S.* 1859, p. 456.
Chrysophelgema mentalis (*non Temm.*), *Jerd. B. Ind.* i. p. 291 (1862); *Stoliczka, J. A. S. B.* 1870, p. 292; *Hume, Str. F.* 1874, p. 472; *Blyth & Wald. B. Burm.* p. 76, no. 115 (1875).
Chloropicus mentalis (pt.), *Malh. Picidæ*, ii. p. 112, pl. lxxv. figs. 4, 5 (1862).
Callolophus mentalis (*non Temm.*), *Salvad. Ucc. Born.* p. 49 (1874); *Sharpe, Ibis*, 1877, p. 9; *Hume & Davison, Str. F.* vi. p. 138 (1878); *Hume, op. cit.* 1879, pp. 52, 87; *Sharpe, Ibis*, 1879, p. 242; *Salvad. Ann. Mus. Civ. Genov.* xiv. p. 181 (1879); *Oates, B. Brit. Burm.* ii. p. 46 (1883); *Guillemard, P. Z. S.* 1885, p. 405.
Chrysophlegma squamicolle (*non Less.*), *Hargitt, Ibis*, 1886, p. 269.
Chrysophlegma humii, *Harg. Ibis*, 1889, p. 231.

Adult male. Resembles *C. mentale*, but may be distinguished by its striped instead of spotted chin and throat, the feathers being deep black, margined (except at the tip) with white; the malar region is dusky brown (not black) and somewhat similarly spotted; nearly all the primaries have their outer webs entirely spotted with rufous; the dimensions are considerably less. Total length 10·7 inches, culmen 1·4, wing 5·3, tail 3·7, tarsus 0·9; toes (without claws)—outer anterior 0·8, outer posterior 0·65, inner anterior 0·55, inner posterior 0·4.

Adult female. Differs from the adult male in having the malar region and the chin rufous. It may be distinguished from the female of *C. mentale* (apart from its specific characters) by the absence of the rufous stripe from the nostril to the occiput. Total length 10·5 inches, culmen 1·4, wing 5·3, tail 3·7, tarsus 0·95.

Young. The female resembles the adult of the same sex, but has the striations on the white throat of a pale brownish dusky; the green portion of the plumage duller, and the rufous portion paler; the ear-coverts pale brown, with the slightest tinge of green. I have not seen a very young male, but an immature bird has the white spotted dusky malar stripe varied with rufous, and it is very probable that the still younger male will be similar to the female.

Hab. Southern Tenasserim, Malayan Peninsula, Sumatra, and Borneo.

a. ♂ ad.; *b*, *c*, *d*. ♀ ad. sk.	Bankasoon, May, June (*W. Davison*).	Hume Coll.
e. ♂ ad.; *f*, *g*, *h*. ♀ ad. sk.	Klang, Salangore, March, April, Sept. (*W. Davison*).	Hume Coll.
i. Juv. sk.	Malacca.	
k, *l*, *m*. ♂ ad.; *n*. ♀ ad. sk.	Malacca, Aug. (*R. G. W. R.*).	Tweeddale Coll.
o, *p*. ♂ ♀ ad. sk.	Malacca (*Dr Maingay*).	Tweeddale Coll.
q. ♀ ad. sk.	Malacca.	Wallace Coll.
r. ♀ ad. sk.	Malacca.	W. Harvey, Esq. [P.].
s, *t*, *u*. ♂ ad. sk.	Malacca (*Dr. Cantor*).	India Museum.
v–*z*. ♂ ad. et imm.; *a'*–*d'*. ♀ ad. sk.	Malacca, July, Nov. (*W. Davison*).	Hume Coll.
e'. ♂ ad.; *f'*, *g'*. ♀ ad. sk.	Nealys, Malacca, Oct. 1875 (*W. Davison*).	Hume Coll.
h'. ♂ ad.; *i'*, *k'*. ♀ ad. sk.	Pulo Seban, Malacca, Oct., Nov. (*W. Davison*).	Hume Coll.
l', *m'*, *n'*. ♂ ad. et imm.; *o'*, *p'*, *q'*. ♀ ad. sk.	Johore, Feb., March, August (*W. Davison*).	Hume Coll.
r'. ♂ ad. sk.	Singapore.	Gould Coll.
s'. ♂ ad. sk.	Singapore Island, Dec. 10, 1879 (*W. Davison*).	Hume Coll.
t'. ♀ ad.; *u'*. ♂ imm. sk.	Sumatra.	Wallace Coll.
v', *w'*, *x'*. ♂ ad.; *y'*. ♀ ad. sk.	Sumatra, Sept. (*Carl Bock*).	Tweeddale Coll.
z'. ♂ imm.; *a''*. Juv. sk.	Lampong, S.E. Sumatra (*E. C. Buxton*).	Tweeddale Coll.
b''. ♂ ad. sk.	Sarawak, Sept. 20, 1877.	Hume Coll.
c''. ♂ ad. sk.	Sarawak.	Wallace Coll.
d''. ♀ ad.; *e''*. ♀ imm. sk.	Sarawak (*A. R. Wallace*).	Tweeddale Coll.
f''. ♀ ad. sk.	Tagora, Sarawak, May 3, 1875 (*A. Everett*).	Tweeddale Coll.
g''. ♂ ad. sk.	Matang, Sarawak, Sept. 1870 (*A. Everett*).	Tweeddale Coll.
h''. ♂ imm.; *i''*. ♀ ad. sk.	N.E. Borneo.	Tweeddale Coll.

5. Chrysophlegma flavinucha.

Picus flavinucha, *Gould*, *P. Z. S.* 1833, p. 120; *Blyth*, *J. A. S. B.* xii. p. 1003 (1843); *Sundev. Consp. Av. Picin.* p. 57 (1866).

Dryotomus flavigula, *Hodgs. J. A. S. B.* 1837, p. 106; *id. Icon. ined. in Brit. Mus.* nos. 157, 168; *id. in Gray's Zool. Misc.* 1844, p. 85.

Gecinus flavinucha, *Gray*, *Gen. B.* ii. p. 438, pl. cix. ♂ (1846); *id. Cat. Mamm. &c. Nepal, pres. Hodgs.* p. 116 (1846); *Blyth*, *Cat. B. Mus. As. Soc.* p. 58 (1849); *Irby*, *Ibis*, 1861, p. 229; *Gray*, *List Picid. Brit. Mus.* p. 74 (1868); *id. Hand-l. B.* ii. p. 191, no. 8679 (1870).

Chloropicos flavinucha, *Malh. N. Classif.*, *Mém. Acad. Metz*, 1848–49, p. 350.

Chrysophlegma flavinucha, *Gould, B. Asia*, vi. pl. xxxvi. (1850); *Bp. Consp. Gen. Av.* i. p. 127 (1850); *id. Consp. Volucr. Zygod.* p. 10 (1854); *Reichenb. Scans. Picinæ*, p. 357, no. 824, pl. dcxxvii. figs. 4171, 4172, ♂ ♀ ad. (1854); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 662 (1856–58); *Gray, Cat. Mamm. &c. Nepal, pres. Hodgs.* 2nd ed. p. 63, no. 481 (1863); *Jerd. B. Ind.* i. p. 289 (1862); *Beavan, Ibis*, 1865, p. 411; *Bulger, op. cit.* 1869, p. 156; *Beavan, tom. cit.* p. 414; *Jerd. op. cit.* 1872, p. 9; *Hume, Str. F.* 1874, p. 472; *id. & Oates, op. cit.* 1875, pp. 12, 71; *Blyth & Wald. B. Burm.* p. 76 (1875); *Hume, Str. F.* 1877, p. 26; *id. & Davison, op. cit.* vi. p. 137 (1878); *Hume, op. cit.* 1879, p. 87; *Bingham, op. cit.* 1880, p. 164; *Oates, Str. F.* 1882, p. 191; *id. B. Brit. Burm.* ii. p. 43 (1883); *Hargitt, Ibis*, 1886, p. 262.

Chloropicus flavinucha, *Malh. Picidæ*, ii. p. 106, pl. lxxiii. figs. 1, 2, 3 (1862).

Adult male. Back, rump, and upper tail-coverts, scapulars, wing-coverts and almost the whole outer webs of the secondaries glossy yellowish olive, the remaining portion of the quills rufous barred and tipped with black, the tips having a browner tinge: shafts blackish brown; tail black, the central feathers margined with olive at the base; shafts black; nasal plumes brown; forehead rufous, shading into olive on the crown and occiput, the whole being striped with dull brownish red; nuchal crest golden yellow: face dingy olive, the loral region drabby green; malar region, chin, and throat lemon-yellow; side of the neck and fore neck olive-blackish, the latter region varied with longitudinal white stripes, the feathers in reality being white with a longitudinal or somewhat triangular apical spot of olive-black, the basal part more or less concealed; chest olive grading into olivaceous grey on the whole of the under-parts and under tail-coverts; under wing-coverts white tinged with yellow and rufous, and transversely spotted with black: axillaries yellowish white occasionally tinged with rufous, and with similar transverse spots and bars, the latter feathers (externally) and the edge of the wing are sometimes washed with olive: "bill dusky bluish white; iris red; eyelids, gape, and naked skin at gape greenish blue; legs dusky blue; claws horny" (*E. W. Oates*). Total length 13 inches, culmen 1·75, wing 6·5, tail 4·7, tarsus 1·1; toes (without claws)—outer anterior 0·87, outer posterior 0·8, inner anterior 0·6, inner posterior 0·4.

Adult female. Has the malar region, chin, and upper part of the throat rufous faintly striped with blackish. Total length 13 inches, culmen 1·7, wing 6·63, tail 4·7, tarsus 1·15.

Nestling, probably male. Resembles the adult, but has the malar region, chin, throat, and fore neck dull buffy white, the throat and fore neck having dusky brownish spots; the underparts smoky grey, browner on the chest.

Hab. Has been obtained about 100 miles west of Masuri, and extends through the Himalayas into Assam and Cachar, and south into the central portion of the province of Tenasserim, but not as far as Mectan.

a. ♂ ad. sk.	N.W. Himalayas.	Capt. Stackhouse Pinwill [P.].
b. ♀ ad. sk.	Masuri.	Hume Coll.
c. ♂ ad. sk.	Kaladoongi, Sept. 24, 1866.	Hume Coll.
d, *e*. ♂ ♀ ad. sk.	Kumaon (*Strachey*).	India Museum.
f. ♂ ad. sk.	Kumaon.	Tweeddale Coll.
g. ♀ ad. sk.	Naini Tal.	Capt. Stackhouse Pinwill [P.].
h, *i*. ♂ ♀ ad. sk.	Naini Tal, Sept. 25, 1866.	Hume Coll.
k. ♂ ad. sk.	Almorah, Oct. 29, 1866.	Hume Coll.
l, *m*. ♂ ♀ ad. sk.	Nepal. (Types of *Dryotomus flavigula*, Hodgson.)	Hodgson Coll.
n, *o*. ♂ ad. sk.	Nepal.	Hodgson Coll.
p. ♂ ad.; *q*. ♂ imm.; *r*. Juv. sk.	Nepal (*B. H. Hodgson*).	India Museum.
s–*y*. ♂ ad. et juv.; *z*–*e'*. ♀ ad. sk.	Sikhim, Jan., Feb., March, April, Aug., Sept., Oct., Dec. (*L. Mandelli*).	Hume Coll.
f'. ♀ ad.; *g'*, *h'*, *i'*. ♂ ad. sk.	Darjeeling, Feb. 1873.	Hume Coll.
k'. ♂ ad.; *l'*. ♀ imm. sk.	Darjeeling.	Tweeddale Coll.
m'. ♀ ad. sk.	Assam.	Tweeddale Coll.
n'. ♂ ad. sk.	Cachar.	Hume Coll.
o', *p'*. ♂ ad. et juv. sk.	Karen Hills, April, Oct. 1874 (*R. G. W. R.*).	Tweeddale Coll.
q'. ♂ ad. sk.	Tonghoo, Oct. (*E. W. Oates*).	Hume Coll.
r'. ♂; *s'*. ♀ ad.; *t'*. ♂ imm. sk.	Tonghoo, Sept., Nov. 1874 (*R. G. W. R.*).	Tweeddale Coll.
u'. ♂ ad. sk.	Tonghoo Hills, March 12, 1875 (*R. G. W. R.*).	Tweeddale Coll.
v', *w'*. ♂ ♀ imm. sk.	Yaytho, June 11, 1873 (*R. G. W. R.*).	Tweeddale Coll.
x'. ♂ ad. sk.	Thayetmyo, Feb. 23, 1873.	Hume Coll.
y'. ♀ ad. sk.	Kollidoo, Tenasserim, Feb. 3, 1874 (*W. Davison*).	Hume Coll.
z', *a''*. ♂ ♀ ad. sk.	Kyouknyat, Jan. 29, 1874 (*W. Davison*).	Hume Coll.
b'', *c''*. ♂ ad. sk.	Pahpoon, Jan., Dec. (*W. Davison*).	Hume Coll.
d''. ♂ ad. sk.	Younzaleen, Feb. 18, 1874 (*W. Davison*).	Hume Coll.
e'', *f''*, *g''*, *h''*. ♂ ad. et imm. sk.	Kaukaryit, Aug., Sept. (*J. Darling*).	Hume Coll.
i''. ♀ ad. sk.	Thamban, Thatone, Jan 19, 1878.	Hume Coll.
k''. ♀ ad. sk.	Thamban, Thatone, Nov., Jan.	Hume Coll.
l''. ♀ ad. sk.	Wimpong, Dec. 21, 1876 (*W. Davison*).	Hume Coll.
m''. ♂ ad. sk.	Myawadee, Jan. 20, 1877 (*W. Davison*).	Hume Coll.
n''. ♂ ad. sk.	Megaloon, Jan. 9, 1877 (*W. Davison*).	Hume Coll.
o''. ♂ imm. sk.	Lothargee, Jan. 22, 1877 (*W. Davison*).	Hume Coll.

p''. ♂ imm. sk.	Shway-bat-Choung, Zamee River, March 17, 1878 (*C. T. Bingham*).	Hume Coll.
q''. ♀ ad. sk.	Thoungyah, Oct. 7, 1878 (*J. Darling*).	Hume Coll.
r'', *s''*. Bones of trunks.		Old Coll.

6. Chrysophlegma pierrii.

Chrysophlegma pierrei, *Oustalet, Le Naturaliste*, 1889, pp. 44, 45.

Adult female. Differs from the female of *C. flavinucha* in the different colour and character of the feathers of the throat and fore neck. Instead of being olive-black at the tip and white on the basal portion as in *C. flavinucha*, each feather is of a rather dull olive with a narrow rufous apical margin and a broad white basal margin forming a spot, the olive colour appearing as a broad stripe; the sides of the neck and the chest are also paler and together with the feathers of the throat have a vinous shade of colour; the top of the head is much more purple; the upper mandible is entirely black, the lower mandible yellow at the base and having a blackish tip. Total length 13 inches, culmen 1·4, wing 6·15, tail 4·4, tarsus 0·07; toes (without claws)—outer anterior 0·96, outer posterior 1·83, inner anterior 0·62, inner posterior 0·34.

Male (*immature*?). Differs from the adult female in having the malar region and the chin pale yellow; the bill is entirely black, except at the angle of the lower mandible. Total length 13 inches, culmen 1·5, wing 5·95, tail 4, tarsus 1·03.

It may be that this is the adult male of this species, which may differ from the male of *C. flavinucha* in not having the yellow spread over the throat, but confined to the chin and malar region, and also in the colour being very much paler. Two other female examples have the bill black like the male, the angle of the lower mandible alone being yellow, thereby differing from the female described, which has the base of the lower mandible yellow.

Hab. Cochin China. The ♀ type of this species is from Lower Cochin China (*Pierre*); the ♂ from Mu-Xoai Mountains, Province of Baria, French Cochin China (*Pierre*).

7. Chrysophlegma wrayi. (Plate II.)

Chrysophlegma wrayi, *Sharpe, P. Z. S.* 1888, p. 279.

Female (type of species). Resembles the female of *C. flavinucha*, but differs in having the feathers of the throat pure black margined (except at the tip) with white, the black expanding about midway; the bill black, yellowish at the angle of the lower mandible; the rufous bars on the wings about equal in width to the black interspaces; the dimensions considerably less, and the general coloration darker, especially on the face, this being less olive: "irides red-

brown; feet and legs ash-colour; bill black above, grey beneath and at angle" (*Wray*). Total length 10·5 inches, culmen 1·28, wing 5·6, tail 4, tarsus 0·93; toes (without claws)—outer anterior 0·85, outer posterior 0·78, inner anterior 0·65, inner posterior 0·35.

The male of the present species is unknown. Only one specimen (a female) was obtained by Mr. L. Wray.

Hab. The Mountains of Perak, Malay Peninsula (Gunong Batu Putch, from 3400 to 4000 feet).

a. ♀ ad. sk.	Mountains of Perak, Malay Peninsula.	L. Wray, Esq. [P.]. (Type of species.)

8. Chrysophlegma mystacale.

Chrysophlegma mystacalis, *Salvad. Ann. Mus. Civ. Genov.* xiv. p. 182 (1879); *Wardlaw-Ramsay, P. Z. S.* 1880, p. 16; *Nicholson, Ibis*, 1883, p. 242.
Chrysophlegma mystacale, *Hargitt, Ibis*, 1886, p. 265.

Adult male. Entire upper parts, including upper tail-coverts, wing-coverts, outer webs and tips of inner webs of innermost secondaries, also the top of the head and the occiput golden olive, the forehead and outer edge of the crown slightly rufous; nuchal crest yellow; nasal plumes, sides of the face and neck, the whole underparts below the throat, and the under tail-coverts uniform olive, the chin and throat olive-black, the former varied with rufous, and the malar stripe yellow; quills brownish black, the outer webs of the outer secondaries and of the inner primaries at the base dull red margined with golden olive, the outer webs of the primaries and the inner webs of all the quills (except the innermost of all, which are only margined with rufous at the base) barred with rufous; shafts brownish black; tail and the shafts black, wing-lining black barred with pale rufous, the edge of the wing and the axillaries olive: "irides reddish brown, bill very pale blue, legs and feet bluish green" (*H. O. Forbes*). Total length 11·5 inches, culmen 1·5, wing 5·6, tail 4·6, tarsus 1·05; toes (without claws)—outer anterior 0·82, outer posterior 0·8, inuer anterior 0·6, inner posterior 0·38.

Adult female. Resembles the adult male, but has a rufous malar stripe. Total length 11 inches, culmen 1·25, wing 5·4, tail 4·25, tarsus 1.

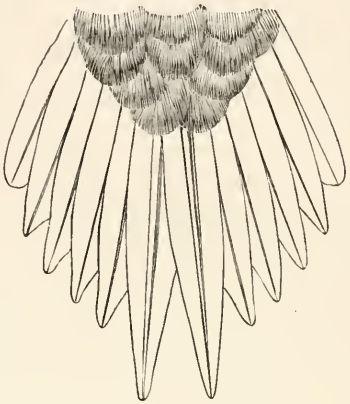
Hab. Confined to the Island of Sumatra.

a–d. ♂ ad.; *e–h.* ♀ ad. sk.	Sumatra (*Carl Bock*).	Tweeddale Coll.
i. ♂ ad. sk.	Sumatra.	Von Faber [C.].

9 GAUROPICOIDES.

Type.

Gauropicoides, *Malh. Introd. Monogr. Picid.* liii. (1861) .. G. rafflesi.



Tail of *Gauropicoides rafflesi*, ½.

Range. South Tenasserim, Malayan Peninsula, Sumatra, and Borneo.

1. Gauropicoides rafflesi.

Picus rafflesii, *Vig. Raffl. Mem.*, App. p. 669 (1831); *Strickl. P. Z. S.* 1846, p. 103; *Sundev. Consp. Av. Picin.* p. 57 (1866).

Tiga rafflesii, *Blyth, J. A. S. B.* 1846, p. 16; *Gray, Gen. B.* ii. p. 441 (1846); *Blyth, Cat. B. Mus. As. Soc.* p. 57 (1849); *Bp. Consp. Gen. Av.* i. p. 120 (1850); *Reichenb. Scans. Picinæ*, p. 396, no. 919, pl. dclii. figs. 4346–47 ♂ ♂ (1854); *Gray, List Picid. Brit. Mus.* p. 98 (1868); *id. Hand-l. B.* ii. p. 197, no. 8755 (1870); *Tweedd. Mem. ed. W.-Ramsay*, p. 479 (1881).

Tiga amictus, *Gray, Gen. B.* ii. p. 441 (1846).

Picus (Tiga) labarum, *Less. Ois. réc. découv.* 1847, p. 199, ♂ ad.

Chloropicoides rafflesii, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 347; *id. Picidæ*, ii. p. 102, pl. lxxii. figs. 1 ♂ ad., 2 ♀ ad., 3 ♂ juv. (1862).

Chrysonotus rafflesii, *Bp. Consp. Volucr. Zygod.* p. 10, no. 184 (1854); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 658 (1856–58); *Moore, P. Z. S.* 1859, p. 456; *Cab. & Heine, Mus. Hein.* iv. p. 173 (1863).

Gauropicoides rafflesii, *Malh. Picid.* i. p. liii (1861); *Salvad. Ucc. Born.* p. 54 (1874); *Hume, Str. F.* 1875, p. 319; *id. & Davison, op. cit.* vi. p. 146 (1878); *Hume, op. cit.* 1879, pp. 53, 88, no. 185 *bis*; *Salv. Cat. Strickl. Coll.* p. 392, no. 1918 (1882); *Oates,*

B. Brit. Burm. ii. p. 42 (1883); *Verd. Over. Nat. Tijds. Nederl. Ind.* xliv. p. 191 (1884).

Adult male. Upper parts and wing-coverts uniform golden olive, the feathers of the rump slightly tipped with reddish orange; the upper tail-coverts almost entirely black; quills black, the outer webs of the secondaries and both webs of the innermost golden olive, the inner webs of the quills with a few intermarginal spots of pure white, the shafts black; tail and the shafts black, the outermost feather about an inch and three quarters in length; nasal plumes brown; the whole of the top of the head and the crest scarlet; lores reddish brown; malar region, chin, and throat golden buff, the malar region tinged with red anteriorly; sides of the face and neck black, traversed by two white stripes, the hind neck black; entire underparts deep olive, the sides of the body, flanks, and thighs spotted with white; under tail-coverts brown, tipped with olive; under wing-coverts and axillaries olive-black, the former spotted, the latter barred with white. Total length 10·5 inches, culmen 1·37, wing 5·75, tail 4·3, tarsus 1; toes (without claws)—outer anterior 0·7, inner anterior 0·48, posterior 0·55.

Adult female. Differs from the adult male in having the top of the head and the entire crest black; the base of the forehead and lores orange-brown; the malar region, chin, and throat rufescent buff, with only a faint golden tinge; the fore neck shading into the olive-brown of the underparts. Total length 10·5 inches, culmen 1·3, wing 5·7, tail 4·55, tarsus 0·95.

The young have the underparts dusky, with a slight olive tinge; the chin, throat, and fore neck smoky or brownish white, or dusky buffy white. A very young male has the top of the head dusky black, the posterior feathers tipped with red, the occiput and nape being scarlet; the occipital crest is very long. Females with the throat and fore neck as above (dingy), consequently immature, have no red on the head. I have never yet seen a female nestling.

Sumatran examples are dull in colour, and Bornean specimens are remarkably small.

Hab. Tenasserim, south of Myawadee; Malayan Peninsula to Singapore; Sumatra; Borneo.

a. ♂ ad. sk.	Thenganee Sakan, Myawadee, Jan. 17, 1877 (*W. Davison*).	Hume Coll.
b–g. ♂ ad.; *h–l.* ♀ ad. et juv. sk.	Bankasoon, Dec., Feb., April, May (*W. Davison*).	Hume Coll.
m. ♀ ad.; *n.* ♀ juv. sk.	Malewoon, April 8, 1877 (*W. Davison*).	Hume Coll.
o, p. ♂ ♀ ad.; *q.* ♂ juv. sk.	Klang, Feb. 1880 (*W. Davison*).	Hume Coll.
r, s. ♂ ad. sk.	Malacca, Jan. (*W. Davison*).	Hume Coll.
t, u. ♂ ad.; *v, w.* ♀ ad. sk.	Malacca, Jan., July (*W. Davison*).	Hume Coll.
x. ♂ ad. sk.	Malacca.	Wallace Coll.

y,*z*,*a'*. ♀ ad. et imm.; *b'*. ♂ ad. sk.	Malacca, Aug. (*R. G. W. R.*).	Tweeddale Coll.
c', *d'*. ♂ ad. sk.	Malacca (*Dr. Maingay*).	Tweeddale Coll.
e', *f'*. ♂ ♀ ad. sk.	Malacca (*Dr. Cantor*).	India Museum.
g'. ♀ ad. sk.	Kuroo, Malacca, Nov. 4, 1875 (*W. Davison*).	Hume Coll.
h', *i'*. ♂ ♀ ad. sk.	Gunnong Pulai, July, Aug. (*W. Davison*).	Hume Coll.
k'. ♀ ad. sk.	Singapore.	Wallace Coll.
l'. ♀ ad. sk.	Singapore.	Gould Coll.
m', *n'*. ♂ ♀ ad. sk.	Sumatra.	Zoological Society.
o', *p'*. ♂ ♀ ad. sk.	Sumatra, Oct. (*Carl Bock*).	Tweeddale Coll.
q'. ♀ ad.; *r'*. ♂ juv. sk.	Lampong, S.E. Sumatra (*E. C. Buxton*).	Tweeddale Coll.
s', *t'*. ♂ ♀ ad. sk.	Sarawak, June (*A. Everett*).	Tweeddale Coll.
u'. ♂ ad. sk.	Simunjon (*A. Everett*).	Tweeddale Coll.

10. GECINULUS.

Type.

Gecinulus, *Blyth, J. A. S. B.* 1845, p. 192 ..... G. grantia.
Spaniopicoides, *Malh. Introd. Monogr. Picid.* p. liii (1861). G. grantia.
Geciniscus, *Cab. & Heine, Mus. Hein.* iv. p. 174 (1863) .. G. grantia.

Range. Nepal and Sikhim, extending into Assam, Cachar, and Manipur; south into Tenasserim as far as Kossoum, and ranging eastward into Laos.

Key to the Species.

a. Above dull red.
  a'. Crown pale red ..... *grantia* ♂ ad., p. 135.
  b'. Feathers of the occiput, nape, and hind neck, as well as those of the crown, tipped with red.. *grantia* juv., p. 135.
  c'. With no red on the crown ..... *grantia* ♀ ad., p. 135.
b. Above green.
  d'. Crown, occiput, and nape brilliant scarlet.... *viridis* ♂ ad., p. 136.
  e'. With no red on the head ..... *viridis* ♀ ad., p. 136.

1. Gecinulus grantia.

Picus (Chrysonotus) grantia, *McClell. P. Z. S.* 1839, p. 165.
Gecinulus grantia, *Blyth, J. A. S. B.* 1845, p. 192; *id. Cat. B. Mus. As. Soc.* p. 60, no. 273 (1849); *Bp. Consp. Volucr. Zygod.* p. 10, no. 185 (1854); *Horsf. & Moore, Cat. B. E.I. Co. Mus.* ii. p. 663, no. 967 (1856–58); *Jerd. B. Ind.* i. p. 292 (1862); *Gray, Cat. Mamm. &c. Nepal, pres. Hodgs.* p. 63, no. 485 (1863); *Bulg. Ibis*, 1869, p. 157; *Hume, Str. F.* 1877, pp. 26, 113; *id. op. cit.* xi. p. 63 (1888).
Tiga grantia, *Gray, Gen. B.* ii. p. 441 (1846); *Bp. Consp. Gen. Av.* i. p. 120 (1850); *Reichenb. Scans. Picinæ*, p. 397, no. 920 (1854); *Gray, List Picid. Brit. Mus.* p. 99 (1868); *id. Hand-l. B.* ii. p. 197, no. 8756 (1870).
Chloropicoides grantia, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 348; *id. Picidæ*, ii. p. 104, pl. lxxii. figs. 5 ♂, 6 ♀ (1862).
Geciniscus grantia, *Cab. & Heine, Mus. Hein.* iv. p. 174 (1863).
Picus grantia, *Sundev. Consp. Av. Picin.* p. 48 (1866).

Adult male. Above, including wing-coverts and tail-coverts, dull red; quills dusky brown, the outer webs of the secondaries and of the inner primaries at the base red, the outer webs of the primaries with longitudinal spots of ochreous yellow, those of the secondaries having pinkish spots, the inner webs of quills with rounded white spots, the innermost secondaries unspotted on either web; shafts pale brown; tail-feathers dusky, partially margined with red and faintly barred with buff; shafts light brown, with dusky tips; nasal plumes brownish buff; head yellowish olive, buff or brownish anteriorly, the coronal feathers pink, tipped with deeper red; neck and the whole of the under surface of the body olive, rather darker below; under tail-coverts dusky green; under wing-coverts and axillaries dusky, the former varied with olive and dull white, the latter tipped with olive. Total length 8·5 inches, culmen 1·1, wing 5, tail 3·2, tarsus 0·9; toes (without claws)—outer anterior 0·6, inner anterior 0·47, posterior 0·53.

Young male. Has the upper parts darker and of a more purple-red, and the occipital and nuchal feathers, as well as those of the crown, are tipped with pale red, although in a less degree; the under surface of the body is dusky blackish with scarcely a tinge of olive, the chin and throat being very much paler.

Adult female. Wants the red on the crown, this being yellowish olive like the rest of the head. Total length 8·7 inches, culmen 1·05, wing 5·25, tail 3·4, tarsus 0·95.

Hab. Nepal, Sikhim, Assam, Cachar and Manipur, and south-east into Laos*.

a, *b*. ♂ ♀ ad. sk.	Nepal.	Hodgson Coll.
c, *d*. ♂ ♀ ad. sk.	Nepal (*B. H. Hodgson*).	India Museum.
e. ♀ ad. sk.	Native Sikhim, Oct. 1876 (*L. Mandelli*).	Hume Coll.
f–*p*. ♂ ad.: *q*–*w*. ♀ ad. et imm. sk.	Sikhim, Jan., Feb., April, July, Aug., Sept., Nov. (*L. Mandelli*).	Hume Coll.
x. ♂ ad. sk.	Mongphoo, Darjeeling, March 1873.	Hume Coll.
y, *z*. ♂ ad.; *a'*, *b'*. ♀ ad.; *c'*, *d'*. ♀ juv. sk.	Darjeeling, May, Nov.	Hume Coll.
e'. ♂ juv.	Assam (*McClelland*).	India Museum. (Type of species.)
f'. ♂ imm. sk.	Assam.	Dr. Horsfield [P.].
g'. ♀ ad. sk.	N. Khasia hills, March, 1876 (*A. W. Chennell*).	Tweeddale Coll.
h'. ♀ ad. sk.	Tippook, March 1877 (*J. Cockburn*).	Hume Coll.
i', *k'*. ♂ ♀ ad. sk.	Sadhya, April 1877 (*J. Cockburn*).	Hume Coll.
l'. ♂ ad. sk.	Cachar.	Hume Coll.
m'. ♂ ad. sk.	Eerung R., Manipur, Feb. 9, 1881 (*A. O. H.*).	Hume Coll.

* An undoubted specimen from this country, collected by Dr. Harmand, is in the Paris Museum.

2. Gecinulus viridis.

Gecinulus viridis, *Blyth, J. A. S. B.* 1862, p. 341; *Elwes, P. Z. S.* 1873, p. 661; *Hume, Str. F.* 1874, p. 472; *id. & Oates, op. cit.* 1875, pp. 14, 71; *Blyth & Wald. B. Burm.* p. 77 (1875); *Hume, Str. F.* 1877, p. 113; *id. & Davison, op. cit.* vi. p. 144 (1878); *Hume, op. cit.* 1880, p. 112; *Bingh. t. c.* p. 164; *Oates, op. cit.* x. p. 191 (1882); *id. B. Brit. Burm.* ii. p. 41 (1883).
Geciniscus viridis, *Cab. & Heine, Mus. Hein.* iv. p. 174 (1863).
Picus scotochlorus, *Sundev. Consp. Av. Pici.* p. 48 (1866).
Tiga viridis, *Gray, List Picid. Brit. Mus.* p. 99 (1868); *id. Hand-l. B.* ii. p. 197, no. 8757 (1870).

Adult male. General colour green, the face and sides of the neck yellower; the feathers of the crown and the crest scarlet on their apical portion, and those of the rump margined with dull red at the tip; quills (except the outer webs of the secondaries and base of inner primaries) dusky brown, the inner webs with rounded spots of white, and the shafts brown; tail-feathers blackish brown, externally olive at the base, the basal portion of the inner webs spotted with white; shafts brown, with black tips; under wing-coverts olive dusky with large white spots. Total length 8·7 inches, culmen 1·1, wing 5·2, tail 3·45, tarsus 1·05; toes (without claws)—outer anterior 0·58, inner anterior 0·45, posterior 0·55.

Adult female. Differs from the adult male in having the crown, occiput, and nape yellowish green. Total length 8·5 inches, culmen 1, wing 4·9, tail 3·3, tarsus 1·05.

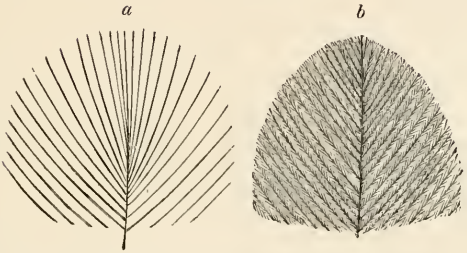
Hab. Pegu, Tenasserim, and the Malayan Peninsula south to Kossoum.

a. ♂ ad. sk.	Tonghoo Hills, March 10, 1874 (*R. G. W. R.*).	Tweeddale Coll.
b. ♂ ad. sk.	Tonghoo, April 8, 1874 (*R. G. W. R.*).	Tweeddale Coll.
c. ♂ ad. sk.	E. Pegu Hills, April 21, 1873 (*E. W. Oates*).	Hume Coll.
d, e. ♂ ad. sk.	Kyouk-nyat, Jan. 1874 (*W. Davison*).	Hume Coll.
f. ♂ ad. sk.	Dargwin, Jan. 10, 1874 (*W. Davison*).	Hume Coll.
g, h, i. ♀ ad. sk.	Pahpoon, Dec., Jan., Feb. (*W. Davison*).	Hume Coll.
k. ♂ ad. sk.	Head-waters of the Thoungyeen, Sept. 24, 1877 (*C. T. Bingham*).	Hume Coll.
l. ♂ ad. sk.	Assoon, March 2, 1877 (*W. Limborg*).	Tweeddale Coll.
m. ♀ ad. sk.	Assoon, March 3, 1877 (*W. Davison*).	Hume Coll.
n, o. ♂ ad. sk.	Meetan, Feb. 12, 1877 (*W. Davison*).	Hume Coll.
p, q. ♀ ad.; *r, s.* ♂ ad. et imm. sk.	Yea, March, April, 1874 (*W. Davison*).	Hume Coll.
t. ♀ ad. sk.	Meeta Myo, April 30, 1874 (*W. Davison*).	Hume Coll.
u, v. ♂ ♀ ad. sk.	Pabyin, Nov. 1874 (*W. Davison*).	Hume Coll.

w. ♀ ad. sk.	Pakchan Creek, Feb. 8, 1874 (*W. Davison*).	Hume Coll.
x. ♂ ad. sk.	Thoungyah, Nov. 19, 1878 (*J. Darling*).	Hume Coll.
y. ♀ imm. sk.	Kossoum, July 22, 1879 (*J. Darling*).	Hume Coll.

11. ASYNDESMUS.

Asyndesmus, *Coues, Proc. Acad. Philad.* 1866, p. 56. Type. A. torquatus.



a. Body-feather of *Asyndesmus torquatus* (enlarged).
b. Body-feather of *Dendrocopus major* (enlarged).

Range. Western United States from the Black Hills and the Rocky Mountains, north to the southern part of British Columbia and the Bow River about 51° N. lat., south into Arizona and western Texas.

1. Asyndesmus torquatus.

Picus torquatus, *Wils. Am. Orn.* iii. p. 31, pl. xx. fig. 3 (1811); *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 80 (1818); *id. & Bonn. Enc. Méth.* iii. p. 1310 (1823); *Valenc. Dict. Sc. Nat.* xl. p. 177 (1826); *Wagl. Syst. Av.* Picus, sp. 82 (1827); *Drap. Dict. Class.* xiii. p. 497 (1828); *Bp. Syn. Bds. U. S.* 1828, p. 46; *Nutt. Man. Orn.* i. p. 577 (1832); *Aud. B. Amer.* pl. ccccxvi figs. 7 ♂ ad., 8 ♀ (1835–38); *id. Orn. Biogr.* v. p. 176 (1839); *id. Syn.* 1839, p. 184; *id. B. Amer.* 8vo, iv. p. 280, pl. cclxxii. figs. 1, 2 (1842); *Sundev. Consp. Av. Picin.* p. 51 (1866).

Picus montanus, *Ord in Guthrie's Geogr. Am.* 2nd ed. 1815, ii. p. 316.

Melanerpes torquatus, *Jard. ed. Wils. Amer. Orn.* i. p. 321, pl. xx. fig. 3 (1832); *Swains. Classif. B.* ii. p. 310 (1837); *Bp. Comp. List B. Eur. & N. Amer.* p. 40, no. 263 (1838); *Gray, Gen. B.* ii. p. 444 (1846); *Gamb. Journ. Acad. Philad.* 1847, p. 56; *Bp. Consp. Gen. Av.* i. p. 115 (1850); *Heerm. Journ. Acad. Philad.* 1853, p. 270; *Reichenb. Scans. Picinæ*, p. 381, no. 881, pl. dcxlii. figs. 4282–83 (1854); *Bp. Consp. Volucr. Zygod.* p. 10, no. 206 (1854); *Newb. P. R. R. Rep.* vi. p. 90 (1857); *Sclat. P. Z. S.*

1858, p. 2; *Baird, B. Amer.* 1858, p. 115; *Cass. U. S. Expl. Exped.* 1858, p. 242; *Heerm. P. R. R. Rep.* x. 1859, pt. vi. p. 58; *Coop. & Suckl. N. H. Wash. Ter.* 1860, p. 161; *Blakist. Ibis*, 1862, p. 3, 1863, p. 53; *Coues, op. cit.* 1865, p. 162; *Gray, List Picid. Brit. Mus.* p. 116 (1868); *id. Hand-l. B.* ii. p. 201, no. 8818 (1870); *Coop. B. Calif. ed. Baird*, 1870, p. 406 (head, figd.); *Aiken, Proc. Bost. Soc.* 1872, p. 207; *B. B. & R. Hist. N. Amer. B.* ii. p. 561, pl. liv. fig. 5 ♂ (1874); *Hensh. U. S. Geogr. Surv. W. of* 100th *Merid.* p. 397 (1875); *Ridgw. U. S. Geol. Expl.* 40th *Par., Orn.* p. 553 (1877); *Beld. Proc. U. S. Nat. Mus.* i. pp. 391, 430 (1878); *Ridgw. op. cit.* 1880, p. 189, no. 376; *Drew, Auk*, 1885, p. 17; *Scott, op. cit.* 1886, p. 427; *A. O. U. Check-List*, 1886, p. 216, no. 408; *Lloyd, Auk*, 1887, p. 191; *Ridgw. Man. N. Amer. B.* p. 291 (1887).

Melampicos torquatus, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 365.

Melampicus torquatus, *Malh. Picidæ*, ii. p. 214, pl. xcvi. figs. 1–5 (1862).

Asyndesmus torquatus, *Coues, Proc. Acad. Philad.* 1866, p. 56; *id. Key N. Amer. B.* p. 197 (1872); *id. B. N. West*, p. 291 (1874); *id. Bull. U. S. Geol. Surv.* 1878, iv. no. 3, p. 617; *id. Check-List N. Amer. B.* p. 79, no. 456 (1882); *id. Key N. Amer. B.* 2nd ed. p. 490, no. 456, figs. 342, 343 (1884).

Adult male. Entire upper parts, wings, and tail dark bronze green, tinged with steel-blue; shafts of quills and of rectrices black; nasal plumes black; forehead, lores, around the eye, including fore part of ear-coverts, malar region, and chin, crimson; crown, occiput, and nape, also posterior half of face and of ear-coverts, dark bronze green; side of the neck, fore neck, and chest, also a broad collar round the hind neck, hoary white, the feathers having a hair-like appearance, the neck and chest with a slight rosy tinge; the feathers forming the collar on the hind neck having the middle portion deep black, those of the chest crossed by a narrow brownish-red band; underparts deep rose-red, inclining to crimson, varied with hoary white, especially on the breast, the white of the feathers having a hair-like character, bases of the feathers dusky black; under tail-coverts, also the under wing-coverts and axillaries, dark bronze green. Total length 9·5 inches, culmen 1·3, wing 6·65, tail 3·3, tarsus 1; toes (without claws)—outer anterior 0·72, outer posterior 0·72, inner anterior 0·6, inner posterior 0·35.

Adult female. Resembles the adult male. Total length 9·5 inches, culmen 1·37, wing 6·4, tail 3·45, tarsus 1.

Young. Differ from the adult in being duller and more dusky brown on the head and neck, the former being only slightly red anteriorly, with no trace of a white collar round the hind neck; the whole of the under surface of the body smoky brown, the feathers of the breast margined with dull white, the abdomen brick-red.

Hab. Western United States from the Black Hills and the Rocky Mountains to the Pacific, extending north to Bow River and Southern part of British Columbia, about 51° N. lat., and south into Arizona and Western Texas.

a, b. Ad. st.	West side of Rocky Mts.	J. K. Lord, Esq. [P.].
c, d. ♂ ♀ ad. sk.	British Columbia.	J. K. Lord, Esq. [P.].
e. Ad. sk.	British Columbia.	G. Barclay, Esq. [P.].
f, g. ♂ ♀ ad. sk.	Fort Klamath, Oregon, May, July (*C. Bendire, Hensh. Coll.*).	Salvin-Godman Coll.
h. ♂ ad. sk.	Umatilla Agency, Oregon, Aug. (*Hensh. Coll.*).	Salvin-Godman Coll.
i. ♂ ad. sk.	North Fork of Snake River, Idaho, July (*Hart Merriam, Hensh. Coll.*).	Salvin-Godman Coll.
k. ♂ ad. sk.	Red Bluff, N. California, April (*C. H. Townsend, Hensh. Coll.*).	Salvin-Godman Coll.
l. ♀ ad. sk.	Redwood, California, April (*Hensh. Coll.*).	Salvin-Godman Coll.
m. Ad. sk.	Nevada, Cal., Oct. (*Hensh. Coll.*).	Salvin-Godman Coll.
n, o. ♂ ad. sk.	Walker's Basin, Cal., Aug. Nov. (*H. Wheeler, Hensh. Coll.*).	Salvin-Godman Coll.
p, q. ♂ ♀ ad. sk.	Grayson, Cal., March (*Bryant, Hensh. Coll.*).	Salvin-Godman Coll.
r, s. ♂ ad.; *t.* ♀ ad. sk.	Jolon, Cal., Oct. (*Hensh. Coll.*)	Salvin-Godman Coll.
u. ♀ ad. sk.	Fort Crook, Cal. (*J. Feilner*).	Salvin-Godman Coll.
v. ♂ ad. sk.	Fort Crook (*J. Feilner*).	Sclater Coll.
w. ♂ ad. sk.	Cloverdale, Cal., April (*Hensh. Coll.*).	Salvin-Godman Coll.
x. Juv. sk.	California.	Sclater Coll.
y. Juv. sk.	California.	Sir. E. Belcher [P.].
z. a'. ♂ imm. sk.	Tucson, Arizona, Sept., Oct. (*Hensh. Coll.*).	Salvin-Godman Coll.
b', c'. ♂ ad.; *d'.* ♀ juv. sk.	Colorado Springs, Colorado, May, Aug. (*Hensh. Coll.*).	Salvin-Godman Coll.

12. MELANERPES.

	Type.
Melanerpes, *Swains. Classif. B.* ii. p. 310 (1837)	M. erythrocephalus.
Centurus, *Swains. Classif. B.* ii. p. 310 (1837).	M. carolinus.
Leuconerpes, *Swains. Classif. B.* ii. p. 310 (1837).	M. candidus.
Tripsurus, *Swains. Classif. B.* ii. p. 311 (1837).	M. flavifrons.
Zebrapicus, *Malh. Mém. Acad. Metz*, 1848–49, p. 360	M. carolinus.
Melampicos, *Malh. Mém. Acad. Metz*, 1848–49, p. 363	M. cruentatus.
Trichopicus, *Bp. Consp. Volucr. Zygod.* no. 37 (1854)	M. cactorum.
Linnæipicus, *Bp. Consp. Volucr. Zygod.* no. 225 (1854)	M. herminieri.
Phymatoblepharus, *Reichenb. Scans. Picinæ*, p. 379 (1854)	M. candidus.
Meropicus, *Malh. Introd. Monogr. Picid.* p. liii (1861)	M. cruentatus.
Columbipicus, *Malh. Introd. Monogr. Picid.* p. liii (1861)	M. candidus.

Cactocraugus, *Cab. & Heine, Mus. Hein.* iv. p. 72 (1863)..... Type. M. cactorum.

Range. United States and Canada to about 50° N. lat.; through Central and South America into the Argentine Republic and Urugnay; also in several of the West Indian islands.

Key to the Species.

A. Back uniform black glossed with bluish or greenish; rump and upper tail-coverts white.
  a'. With yellow on throat or underparts, but no red.
    a''. Under parts uniform. [pp. 146, 147.
      a'''. Head and neck crimson; sexes alike. *erythrocephalus* ♂ ♀ ad.,
      b'''. Head and neck white. [p. 148.
        a^4. With yellow nuchal band ..... *candidus* ♂ ad.,
        b^4. With no yellow band on nape.... *candidus* ♀ ad.,
    b''. Underparts not uniform. [p. 149.
      c'''. With no black on chin or throat; sides of face and neck white; with black malar stripe ..... [p. 155. *xantholaryns* ♂ ad.,
      d'''. With black on chin and throat; upper half of face and posterior half of neck black.
        c^4. Black chest striped with white.
          a^5. White frontal band and black crown-band together in ♀ *M. formicivorus* and ♂ *M. flavigula* greater in width (longitudinally) than red occipital band.
            a^6. Width of red occipital band considerably broader than white frontal band; middle of breast and abdomen more or less uniform.
              a^7. Crown, occiput, and nape crimson..... [p. 149. *formicivorus* ♂ ad.,
              b^7. Red on head confined to the hinder part of the crown, occiput, and nape.. [p. 150. *formicivorus* ♀ ad.,
            b^6. Width of red occipital band not broader than white frontal band; entire underparts striated.
              c^7. Crown black, occipital band (only) red ..... *flavigula* ♂ ad., p. 154.
              d^7. With no red on the head.. *flavigula* ♀ ad., p. 154.
          b^5. White frontal band and black crown-band together in ♀ less in width (longitudinally) than the red occipital band. [p. 153.
            c^6. Crown and occiput crimson .. *angustifrons* ♂ ad.,

d^3. Red on head confined to hinder part of crown and occiput .. *angustifrons* ♀ ad., [p. 154.

d^4. With uniform broad black band across the chest.

c^5. Crown and occiput crimson .... *melanopogon* ♂ ad., [p. 152.

d^5. Crown crossed by a broad black band, the occiput (only) crimson. *melanopogon* ♀ ad., [p. 152.

b'. With more or less red on underparts, and no yellow.

c''. Middle of the breast and abdomen crimson; sides of the body barred black and white.

e'''. With white superciliary stripe and yellow nuchal band.

e^4. With red patch on fore part of crown..... *cruentatus* ♂ ad., p. 156.

f^4. With no red on crown ..... *cruentatus* ♀ ad., p. 157.

f'''. With no white superciliary stripe, and with no yellow nuchal band.

g^4. With red spot on fore part of crown ..... *rubrifrons* ♂ ad., p. 158.

h^4. With no red on crown ..... *rubrifrons* ♀ ad., p. 158.

d''. Chin, throat, and underparts almost entirely crimson, the sides of the body uniform brown; sexes alike ..... *portoricensis* ♂ ♀ ad., [p. 159.

B. Back black, with a broad median stripe of white or pale drab.

c'. With red on underparts; stripe down the back white.

e''. Middle of abdomen (only) crimson; chin and throat olivaceous or drabby white.

g'''. With white spot behind the eye; forehead golden yellow; with red on the head in ♂ only.

i^4. Crown and occiput red, nape yellow ..... *chrysauchen* ♂ ad., [p. 160.

j^4. With black band across posterior part of crown, remainder of the top of the head and the nape yellow ..... *chrysauchen* ♀ ad., [p. 160.

h'''. With no white spot behind the eye; forehead drabby white; with red on the head in both sexes.

k^4. Crown and occiput red..... *pulcher* ♂ ad., p. 160.

l^4. Crown black, occiput (only) red .. *pulcher* ♀ ad., p. 160.

f''. Abdomen and breast crimson; forehead and throat golden yellow.

i'''. Crown and occiput crimson ..... *flavifrons* ♂ ad., p. 161.

j'''. With no red on the head ..... *flavifrons* ♀ ad., p. 162.

d'. With no red on underparts; stripe down the back pale drab.

g''. With a short stripe of red in the middle of the crown ..... *cactorum* ♂ ad., p. 163.

h''. With no red stripe on the crown .... *cactorum* ♀ ad., p. 163.

C. Back, together with the rump and upper tail-coverts, uniform black glossed with

bronze-green; sexes alike, except that the ♂ has the forehead tinged with red (possibly not constant) ..... [p. 164. *herminieri* ♂ ♀ ad.,

D. Back black, with light transverse markings or distinct bars.

e'. Back with crescentic markings and ill-defined bars of smoky grey; head, neck, and chest smoky brown varied with black; with no red or yellow in plumage; sexes similar..... [p. 147. *erythrocephalus* juv.

f'. Back distinctly barred with white, more or less pure; with red or yellow in the plumage of both sexes.

i''. Abdomen red.

k'''. Underparts below the middle of breast barred with deep black.

*m*⁴. Crown, occiput, and nape red.... *pucherani* ♂ ad., p. 165.

*n*⁴. Occiput and nape (only) red, crown black..... *pucherani* ♀ ad., p. 165.

l'''. Underparts in adult uniform, with only a few transverse spots or bars on flanks and thighs, and with the abdomen sometimes barred.

*o*⁴. Underparts deep golden olive, contrasting strongly with the white face and throat; rump and upper tail-coverts black, and with broader white bars than on the back, wings, or central tail-feathers.

*e*⁵. Crown, occiput, and nape red .. *radiolatus* ♂ ad., p. 166.

*f*⁵. Crown smoky brown, occiput dusky, the nape (only) red.... *radiolatus* ♀ ad., p. 167.

*p*⁴. Underparts pale fulvescent drab, drabby white, or drab-brown.

*g*⁵. With black spot above the eye.

*e*⁶. Larger: length 11 inches, wing 6; underparts with strong fulvescent tinge.

*e*⁷. Crown, occiput, and nape red ..... [p. 168. *superciliaris* ♂ ad.,

*f*⁷. Crown uniform black, and uniting with the black spot over the eye; occiput and nape (only) red..... [p. 168. *superciliaris* ♀ ad.,

*f*⁶. Smaller: length 10 inches, wing 5·2 to 5·35; underparts scarcely fulvescent.

*g*⁷. Darker: nasal plumes less red; frontal band not pure white.

*a*⁸. Crown, occiput, and nape red ..... *blakii* ♂ ad., p. 169.

*b*⁸. Crown black, transversely spotted with smoky grey; occiput and nape red .. *blakii* ♀ ad., p. 169.

*h*⁷. Paler: nasal plumes entirely

red; frontal band pure white..... *nyeanus* ♂ ad., p. 169.

*h*⁵. With no black spot above the eye, and no black on the head.

*g*⁶. Feathers at the base of the forehead more or less red, not yellow.

*i*⁷. Central tail-feathers more or less barred with white.

*c*⁸. With no red on the face or chest.

*a*⁹. Crown, occiput, and nape red ..... *caymanensis* ♂ ad., [p. 169.

*b*⁹. Crown dusky grey; occiput and nape (only) red ..... *caymanensis* ♀ ad., [p. 169.

*d*⁸. With more or less of a red tinge on the face and chest, particularly in the ♂; the young slightly striated or spotted below.

*c*⁹. Crown, occiput, and nape red ..... *carolinus* ♂ ad., p. 171.

*d*⁹. Crown grey; occiput and nape (only) red.. *carolinus* ♀ ad., p. 171.

*j*⁷. Central tail-feathers uniform black.

*e*⁸. Outer webs of the primaries uniform black; white bars on the upper parts narrower than the black interspaces.

*e*⁹. Crown, occiput, and nape red ..... *dubius* ♂ ad., p. 173.

*f*⁹. Crown drab or drabby white, more dusky on the occiput; nape (only) red..... *dubius* ♀ ad., p. 173.

*f*⁸. Outer webs of primaries with from two to three white bars at the base; black and white bars on upper parts equal in width.

*g*⁹. Crown, occiput, and nape red ..... *canescens* ♂ ad., p. 174.

*h*⁹. Crown creamy white, the occiput slightly smoky; nape (only) red..... *canescens* ♀ ad., p. 174.

*h*⁶. Feathers at base of forehead more or less yellow, or sometimes tinged with red.

*k*⁷. Base of forehead slightly yellow; no yellow on the chin; bars on the back broad.

g^8. Head, neck, and underparts lighter; rump and upper tail-coverts uniform white; thighs and under tail-coverts barred, but with no bars on abdomen.

i^9. Crown, more or less of the occiput, and the nape red ..... *tricolor* ♂ ad., p. 175.

j^9. Sinciput nearly white, shading into smoky grey on hind head, the nape (only) red .. *tricolor* ♀ ad., p. 175.

h^8. Head, neck, and underparts darker; rump and upper tail-coverts more or less barred; lower part of abdomen, as well as thighs and under tail-coverts, barred.

k^9. Crown, occiput, and nape almost entirely red..... *terricolor* ♂ ad., p. 176.

l^9. Crown and occiput smoky grey or brown, the nape (only) red .. *terricolor* ♀ ad., p. 176.

l^7. Base of forehead and the chin bright yellow; bars on the back narrow.

i^8. Crown, occiput, and nape red..... *rubriventris* ♂ ad., [p. 177.

j^8. Crown drab, occiput and nape (only) red ..... *rubriventris* ♀ ad., [p. 177.

j''. Abdomen yellow, rarely tinged with red.

m'''. Eyes not surrounded by black.

q^4. With yellow or red on nape.

i^5. Central tail-feathers uniform; base of the forehead and the nuchal band yellow or sometimes tinged with red; the red on the crown in the ♂ separated from the nuchal band by a grey belt. Young duller in plumage and slightly striped below.

i^6. Crown whitish anteriorly, and with crimson central patch.. *aurifrons* ♂ ad., p. 178.

j^6. With no red on the crown .. *aurifrons* ♀ ad., p. 179.

k^6. Crown dusky, with dull crimson central patch, the occiput striped with blackish ..... *aurifrons* ♂ juv., p. 178.

j^5. Central tail-feathers more or less barred with white.

l^6. Base of forehead and nuchal band red, and in the ♂ uniting with the red of the

crown; the white bars on the back narrower.

m^7. Crown, occiput, and nape red ..... *santacruzi* ♂ ad., p. 180.

n^7. Crown smoky grey, the red confined to the occiput and nape ..... *santacruzi* ♀ ad., p. 180.

m^6. Base of forehead with only a tinge of yellow; occiput (in male) and nape yellow.

o^7. Entire crown crimson, and not distinctly separated from the yellow of the occiput and nape ..... *hoffmanni* ♂ ad., p. 181.

p^7. Crown and occiput grey, the yellow confined to the nape ..... *hoffmanni* ♀ ad., p. 182.

r^4. With no yellow or red on occiput or nape.

k^5. With crimson spot or patch on crown ..... *uropygialis* ♂ ad., p. 183.

l^5. With no red on crown ..... *uropygialis* ♀ ad., p. 183.

n'''. Eyes surrounded by black, with conspicuous spot above, posteriorly.

s^4. Crown, occiput, and nape red, the nape varied with golden yellow.. *elegans* ♂ ad., p. 184.

t^4. Crown and occiput smoky grey, nape (only) red varied with yellow ..... *elegans* ♀ ad., p. 185.

k''. Abdomen white; eyes surrounded by black; with red spot below ear-coverts.

o'''. With quadrate patch of red on crown ..... *hyppopolius* ♂ ad., p. 186.

p'''. With no red on crown ..... *hyppopolius* ♀ ad., p. 187.

1. Melanerpes erythrocephalus.

Red-headed Woodpecker, *Catesby, Nat. Hist. Carol.* i. p. 20, pl. xx. (1731); *Lath. Gen. Syn.* ii. p. 561, ad. (1782); *Penn. Arct. Zool.* ii. p. 271 (1785).

Le Pic à teste rouge de Virginie, *Briss. Orn.* iv. p. 53, pl. iii. fig. 3 (1760).

Picus erythrocephalus, *Linn. Syst. Nat.* i. p. 174 (1766); *Gm. Syst. Nat.* i. p. 429, ad. (1788); *Bart. Nat. Hist. Penn.* pp. 3, 11 (1799); *Vieill. Ois. Amér. Sept.* ii. p. 60, pls. 112 ad., 113 juv. (1807); *Wils. Amer. Orn.* i. p. 142, pl. ix. fig. 1 (1808); *Vieill. N. Dict.* xxvi. p. 83 (1818); *id. & Bonn. Enc. Méth.* iii. p. 1317 (1823); *Valenc. Dict. Sc. Nat.* xl. p. 181 (1826); *Wagl. Syst. Av.* Picus, sp. 14 (1827); *Drap. Dict. Class.* xiii. p. 496 (1828); *Bp. Syn. Bds. U.S.* 1828, p. 45; *Wagl. Isis*, 1829, p. 518, juv.; *Aud. B. Amer., Atl.* i. pl. xxvii. figs. 1 ♂ ad., 2 ♀ ad., 3, 4, 5 juv. (1827–30); *Less. Traité*, i. p. 227 (1831); *Aud. Orn. Biogr.* i. p. 145 (1831); *Jard. ed. Wilson's Amer. Orn.* i. p. 146, pl. ix. fig. 1 ad., iii. p. 430, pl. xiv. fig. 3 juv. (1832); *Nutt. Man. Orn.* 1832, i. p. 569; *Hahn & Küst. Orn. Atlas*, pl. ii. (1834); *Aud. Orn. Biogr.* v. p. 536

(1839); *Peab. Bost. Journ. Nat. Hist.* 1841, p. 171; *Aud. B. Amer.* 8vo ed. iv. p. 274, pl. cclxxi. figs. 1, 2 ♂ ♀ ad., 3, 3, 3 juv. (1842); *Giraud, B. Long Island*, p. 180 (1844); *De Kay, N. Hist. N. York*, pt. 2, p. 185, pl. xvi. fig. 34, ♂ (1844); *Putn. Pr. Essex Inst.* 1856, p. 214; *Maxim. J. f. O.* 1858, p. 419; *Sundev. Consp. Av. Picin.* p. 50 (1866); *Trippe, Proc. Essex Inst.* 1871, p. 118.

White-rumped Woodpecker, *Lath. Gen. Syn.* ii. p. 563, juv. (1782).

Pic noir à domino rouge, *Buff. Hist. Nat. Ois.* vii. p. 394 (1783).

Pic de Virginie, *Daubent. Pl. Enl.* 117.

Picus obscurus, *Gm. Syst. Nat.* i. p. 429, juv. (1788); *Lath. Ind. Orn.* i. p. 228 (1790).

Melanerpes erythrocephalus, *Swains. Faun. Bor.-Amer.* ii. pp. xxvi, Introd., & 316 (1831); *id. Classif. B.* ii. p. 310 (1837); *Bp. Comp. List B. Eur. & N. Amer.* p. 39, no. 262 (1838); *Gray, Gen. B.* ii. p. 444 (1846); *Gamb. Journ. Acad. Philad.* 1847, p. 55; *Bp. Consp. Gen. Av.* i. p. 115 (1850); *Reichenb. Scans. Picinæ*, p. 381, no. 882, pl. dcxlii. figs. 4284–86, ad. & juv. (1854); *Bp. Consp. Volucr. Zygod.* p. 10, no. 205 (1854); *Gray, List Gen. B.* 1855, p. 93; *Baird, B. N. Amer.* p. 113 (1858); *Sclat. Cat. Amer. B.* p. 340, no. 2034 (1862); *Verr. Proc. Essex Inst.* 1862, p. 144; *Allen, op. cit.* 1864, p. 53; *Coues, Ibis*, 1865, p. 159; *Dresser, t. c.* p. 469; *McIlwr. Proc. Essex Inst.* 1866, p. 83; *Coues, op. cit.* 1867, p. 263, 1868, p. 263; *Gray, List Picid. Brit. Mus.* p. 115 (1868); *id. Hand-l. B.* ii. p. 201, no. 8814 (1870); *Coop. B. Calif. ed. Baird*, p. 402 (1870); *Coues, Key N. Amer. B.* 1872, p. 196; *Hold. Proc. Bost. Soc.* 1872, p. 207; *Hensh. Ann. Lyc. N. York*, 1874, p. 9; *Coues, B. N.-West*, p. 290 (1874); *B. B. & R. Hist. N. Amer. B.* ii. p. 564, pl. liv. fig. 4, ♂ (1874); *Brewst. Ann. Lyc. N. York*, 1875, p. 144; *Hensh. U.S. Geogr. Surv. W. of 100th Merid.* 1875, p. 398; *Ridgw. U.S. Geol. Expl. 40th Par., Orn.* p. 554 (1877); *Mayn. B. Florida*, p. 229, pl. xviii. (1878); *Coues, Bull. U.S. Geol. Surv.* iv. no. 3, p. 617 (1878); *Merriam, Bull. Nutt. Orn. Club*, iii. p. 123 (1878); *Ridgw. Proc. U.S. Nat. Mus.* 1880, p. 189, no. 375; *Coues, Check-l. N. Amer. B.* 1882, p. 79, no. 453; *Nehrl. J. f. O.* 1883, p. 95; *Coues, Key N. Amer. B.* 2nd ed. p. 489, no. 453, fig. 340 (1884); *Drew, Auk*, 1885, p. 17; *Agersb. t. c.* p. 283; *A. O. U. Check-list*, 1886, p. 216, no. 406; *Brewst. Auk*, 1886, p. 104; *Lloyd, t. c.* p. 191; *Sennett, t. c.* p. 242; *Ridgw. Man. N. Amer. B.* p. 290 (1887); *Warren, B. Penn.* p. 133 (1888).

Melampicos erythrocephalus, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 365.

Melampicus erythrocephalus, *Malh. Picidæ*, ii. p. 209, pl. xcvii. figs. 1 ad., 2, 3 juv. (1862).

Adult male. Back, scapulars, and wing-coverts black, glossed with greenish blue; rump and upper tail-coverts white; primaries black, the innermost one having the inner web partially margined with white and the tip white; secondaries white, with black bases concealed by the coverts, the outer feather having the outer web and a subapical bar on the inner web black; shafts of quills black; tail black, the outer large feather externally margined and tipped with white, all the feathers except the central pair having a basal patch of white on the inner webs; shafts black; nasal plumes brownish black; entire head, neck, and chest, except the sides of the latter, crimson, this colour on the chest bordered narrowly with black;

entire underparts below, also the under tail-coverts, white, the abdomen slightly yellowish; under wing-coverts and axillaries white, the edge of the wing black. Total length 8·5 inches, culmen 1·15, wing 5·65, tail 3·2, tarsus 0·87; toes (without claws)—outer anterior 0·7, outer posterior 0·7, inner anterior 0·53, inner posterior 0·37.

Adult female.. Resembles the adult male, but is slightly smaller. Total length 8·3 inches, culmen 1·12, wing 5·3, tail 2·9, tarsus 0·85.

Young. The sexes are similar and bear no resemblance to the adult except in having the white rump, upper tail-coverts, and secondaries; the back and scapulars are brownish black, only slightly glossed, the feathers being tipped with smoky drab; the head, neck, and chest brownish dusky, the feathers margined at the tip with smoky drab, except those of the chin and throat, which are margined on both webs with smoky white, giving a striped appearance to these parts; under surface of the body (except the abdomen) smoky white, with broad dusky striations or longitudinal spots; the secondaries crossed by a subapical black bar, and with a transverse spot, or sometimes bar, nearer the base, but generally on the outer web only.

Hab. United States, north to about 50° lat., west to the Rocky Mountains, rarely further west, but observed in the Salt-Lake Valley; south to Arizona and Gulf States.

a, b. Ad. et juv. sk.	Canada (*C. Shelley*).	Tweeddale Coll.
c. Ad. sk.	Fort Dufferin, Manitoba (*G. Dawson*).	N. A. Boundary Comm.
d. ♀ ad. sk.	Pembina, Dakota, June (*E. Coues, Hensh. Coll.*).	Salvin-Godman Coll.
e. ♂ juv. sk.	Pueblo, Colorado, July (*H. Wheeler, Hensh. Coll.*).	Salvin-Godman Coll.
f. ♀ ad.; *g, h.* ♂ ad. sk.	Colorado Springs, Colorado, May, June (*Hensh. Coll.*).	Salvin-Godman Coll.
i, k. ♂ ♀ ad. sk.	Michigan.	Prof. J. R. Steere [P.].
l, m, n. ♂ ad.; *o.* ♀ ad. sk.	Waukegan, Illinois, May, Aug. (*E. W. Nelson, Hensh. Coll.*).	Salvin-Godman Coll.
p. ♂ ad. sk.	Mt. Carmel, Ill., Aug. (*E. W. Nelson, Hensh. Coll.*).	Salvin-Godman Coll.
q. ♀ ad. sk.	Englewood, Ill., Sept. (*E. W. Nelson, Hensh. Coll.*).	Salvin-Godman Coll.
r. ♀ juv. sk.	Noble, Richland Co., Ill., Aug. (*E. W. Nelson, Hensh. Coll.*).	Salvin-Godman Coll.
s–x. ♂ ad. et juv; *y–d'.* ♀ ad. et juv. sk.	Locust Grove, New York, April, June–Aug. (*Hart Merriam, Hensh. Coll.*).	Salvin-Godman Coll.
e', f', g'. ♂ ad.; *h', i'.* ♀ ad. sk.	Lowville, N.Y., July (*A. Jenings Dayan, Hensh. Coll.*).	Salvin-Godman Coll.
k', l'. ♂ imm. et juv. sk.	Lyons Falls, N.Y., March, Aug. (*A. Jenings Dayan, Hensh. Coll.*).	Salvin-Godman Coll.

m', *n'*, *o'*. ♂ ad.; *p'–s'*. ♀ ad.; *t'*, *u'*, *v'*. ♀ imm. sk.	Leyden, New York, Aug., Dec. (*Hart Merriam, Hensh. Coll.*).	Salvin-Godman Coll.
w', *x'*. ♂ ♀ ad.; *y'*, *z'*, *a''*. Juv. sk.	Washington, D.C., May, Sept. (*Hensh. Coll.*).	Salvin-Godman Coll.
b''. ♀ ad. sk.	Hawes Wood, D.C., May (*E. Coues*, Sm. no. 28720).	Salvin-Godman Coll.
c''. ♀ ad. sk.	Aiken, S. Carolina, March (*Hart Merriam, Hensh. Coll.*).	Salvin-Godman Coll.
d'', *e''*. ♀ ad. sk.	Miami, Florida (*Hensh. Coll.*).	Salvin-Godman Coll.
f''. Ad. sk.	Florida.	W.B.Dismore,Esq.[P.].
g''. ♀ ad. sk.	Papalote, Bee Co., Texas, Jan. (*F. B. Armstrong*).	Salvin-Godman Coll.
h''. Juv. sk.	[Mexico.]	Gould Coll.
i''. ♂ ad. sk.	North America.	Riocour Coll.

2. Melanerpes candidus.

Picus candidus, *Otto in Buffon's Naturg. Uebers.* xii. p. 251, pl. xxiii. (c. 1772); *Wagl. Syst. Av.* Picus, sp. 81 (1827); *Neuwied, Beitr. Naturg. Bras.* iv. pt. 1, p. 415 (1832).

Picus dominicanus, *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 72 (1818); *id. & Bonn. Enc. Méth.* iii. p. 1306 (1823); *Licht. Verz. Doubl.* p. 10 (1823); *Spix, Av. Bras.* i. p. 59, pl. l. figs. 1 ♀, 2 ♂ (1824); *Valenc. Dict. Sc. Nat.* xl. p. 175 (1826); *Drap. Dict. Class.* xiii. p. 498 (1828); *Less. Traité*, i. p. 224 (1831); *Sundev. Consp. Av. Picin.* p. 49 (1866).

Picus melanopterus, *Neuwied, Reis. Bras.* i. p. 165 (1820), ii. p. 339 (1821); *Such, Zool. Journ.* i. p. 556 (1825).

Picus bicolor, *Swains. Zool. Illustr.* i. pl. xxxviii. ♀ (1820-21); *Steph. Gen. Zool.* xiv. p. 170 (1826).

Leuconerpes candidus, *Swains. Classif. B.* ii. p. 310 (1837); *Burm. J. f. O.* 1860, p. 244; *id. Reise La Plata-St.* ii. p. 445 (1861); *Sclat. Cat. Amer. B.* p. 342, no. 2041 (1862); *id. & Huds. Arg. Orn.* ii. p. 23 (1889); *Pelz. Orn. Bras.* p. 247 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 100 (1873); *Salv. Ibis*, 1880, p. 361; *White, P. Z. S.* 1882, p. 618; *Barrows, Auk*, 1884, p. 25.

Leuconerpes dominicanus, *Gray, Gen. B.* ii. p. 444 (1846); *Hartl. Ind. Azara*, p. 16, no. 254 (1847); *Ep. Consp. Gen. Av.* i. p. 114 (1850); *id. Consp. Volucr. Zygod.* p. 10, no. 203 (1854); *Gray, Cat. Gen. Brit. Mus.* p. 93 (1855); *id. List Picid. Brit. Mus.* p. 119 (1868); *id. Hand-l. B.* ii. p. 202, no. 8827 (1870).

Melampicos dominicanus, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 336.

Phymatoblepharus candidus, *Reichenb. Scans. Picinæ*, p. 379, no. 875, pl. dcxli. figs. 4275–76, ♂ ♀ (1854).

Melampicus dominicanus, *Malh. Picidæ*, ii. p. 217, pl. ci. figs. 1, 2, ♂ ♀ ad. (1862).

Adult male. Back, scapulars, wing-coverts, and secondary quills brownish black, the primaries dark brown; shafts of the primaries brown, those of the secondaries nearly black; nasal plumes, head and neck (except the hind portion), the entire under surface of the body and under tail-coverts, rump, and upper tail-coverts white,

with the nuchal feathers lemon-yellow, this colour forming a band; the abdomen also lemon-yellow, and the middle of the chest occasionally tinged with the same; an auricular stripe of black running on to the hind neck which is brownish black like the back; tail nearly black, the six central feathers having their basal half white, with one or two black bars near the black portion of the feathers, the two outer large feathers on either side having their inner webs white and almost entirely barred with black; shafts corresponding in colour with the surrounding webs; under wing-coverts and axillaries brownish black. Total length 11 inches, culmen 1·4, wing 6·2, tail 3·7, tarsus 1; toes (without claws)—outer anterior 0·8, outer posterior 0·8, inner anterior 0·65, inner posterior 0·43.

Young male. Is almost identical with the fully adult of the same sex, but is of a more sooty black above; the yellow nuchal band is nearly as bright as in the old male, but the yellow of the abdomen is very much less so.

Adult female. Resembles the adult male, but wants the yellow nuchal band, the nape being white like the rest of the head. Total length 11 inches, culmen 1·4, wing 6·75, tail 4, tarsus 1.

Hab. Southern and Eastern Brazil, north to the Province of Bahia; Bolivia; Paraguay; Argentine Republic, and south into Lower Uruguay.

a. ♀ ad. sk.	Brazil.	Riocour Coll.
b, *c*. ♂ ad. sk.	Bahia, Brazil (*Dr. Wucherer*).	Salvin-Godman Coll.
d. ♀ ad. sk.	Minas Geraes (*Rogers*).	Selater Coll.
e, *f*, *g*. ♂ ad. et juv.; *h*. ♀ imm. sk.	Chapada, Matto Grosso, May–Nov. (*H. Smith*).	Salvin-Godman Coll.
i. ♀ ad. sk.	Bolivia.	Purchased.
k. ♂ ad. sk.	Bolivia.	Selater Coll.
l. [♀] ad. sk.	Salta, Arg. Rep., June.	H. Durnford, Esq. [C.].

3. Melanerpes formicivorus.

Picus formicivorus *, *Swains. Phil. Mag.* 1827, p. 439.

Melanerpes formicivorus, *Bp. P. Z. S.* 1837, p. 109; *Selat. P. Z. S.* 1856, pp. 143, 207, 1858, p. 305, 1859, p. 367; *Moore, P. Z. S.* 1859, p. 60; *Selat. & Salv. Ibis*, 1859, p. 137; *Selat. Cat. Amer. B.* p. 341, no. 2035 (1862); *Cab. J. f. O.* 1862, p. 332; *Selat. P. Z. S.* 1864, p. 177; *Lawr. Ann. Lyc. N. Hist. N. York*, 1868, p. 131; *Salv. P. Z. S.* 1870, p. 213; *id. & Selat. Nomencl. Av. Neotr.* p. 100 (1873); *Lawr. Bull. U. S. Nat. Mus.* iv. 1876, p. 35; *Boucard, P. Z. S.* 1878, p. 49; *Salv. Cat. Strickl. Coll.* p. 397, no. 1944 (1882) (pt.); *Ridgw. Proc. U. S. Nat. Mus.* 1883, p. 497; *Zeled. op. cit.* 1885, p. 111; *Ridgw. Man. N. Amer. B.* p. 291 (1887).

Melanerpes striatipectus, *Zeled. Cat. Av. Costa Rica*, p. 23, no. 491 (1882).

Adult male. Back, scapulars, and wing-coverts black, more or less glossed with greenish blue; rump and upper tail-coverts white;

* Swainson's type (now in the Cambridge Museum) is from Temiscaltipec, Mexico; by permission of Professor Newton I have had the opportunity of examining this specimen.

quills black, most of the primaries with a large basal patch of white on both webs, the secondaries having their inner webs spotted on the apical half with white, the spots frequently confluent, the innermost secondaries unspotted; shafts of quills black; tail and the shafts black; nasal plumes, feathers at the base of upper and lower mandible, chin, and part of the throat black; forehead and a line downwards in front of the eye white, this uniting with the white of the malar region: crown and occiput crimson; orbital region and upper part of the face, also the posterior part of the side of the neck, nape, and hind neck glossy black; hind portion of the malar region and the lower part of the throat and fore neck more or less pale sulphur-yellow; underparts white, the abdomen uniform, the remainder broadly striped with black, the stripes on the chest and breast being very close and making these parts appear as though black striped with white, the chest having a small central spot of red; under tail-coverts white with narrow shaft-stripes of black; under wing-coverts greyish white striped with black, the edge of the wing black varied with pure white. Total length 8·8 inches, culmen 1·12, wing 5·62, tail 3·1, tarsus 0·9; toes (without claws)—outer anterior 0·75, outer posterior 0·78, inner anterior 0·57, inner posterior 0·36.

The young males very much resemble the adult of the same sex.

Adult female. Differs from the male in having the anterior half of the crown black, glossed with greenish blue, this forming a broad band about half an inch in width. Total length 8·5 inches, culmen 1·03, wing 5·4, tail 3·2, tarsus 0·86.

Hab. Central America, south to Veragua, north to British Honduras; Southern and Eastern Mexico into Tamaulipas.

a. Ad. st.	Mexico.	
b, *c*. ♂ ♀ ad. sk.	Mexico.	J. Taylor, Esq. [P.].
d. ♂ ad.; *e*, *f*. ♀ ad. sk.	Mexico.	Gould Coll.
g. ♀ imm. sk.	Mexico.	Purchased.
h, *i*. ♂ ad. sk.	Mexico.	Tweeddale Coll.
k–*o*. ♂ ad.; *p*–*t*. ♀ ad. sk.	Sierra Madre, above Ciudad Victoria, Tamaulipas, April (*W. B. Richardson*).	Salvin-Godman Coll.
u. ♂ imm. sk.	Coatepec, Vera Cruz, July.	Salvin-Godman Coll.
v. ♀ ad. sk.	Vera Cruz.	Tweeddale Coll.
w. ♀ ad. sk.	Jalapa, Oct.	Salvin-Godman Coll.
x. ♂ ad. sk.	Enc. de San Lorenzo, Cordova, Vera Cruz, Jan.	Salvin-Godman Coll.
y. ♂ ad. sk.	Jalapa (*de Oca*).	Salvin-Godman Coll.
z, *a'*, *b'*. ♂ ad.; *c'*, *d'*, *e'*. ♀ ad. sk.	Jalapa, Jan., March, May (*F. D. G.*).	Salvin-Godman Coll.
f', *g'*. ♂ ad.; *h'*, *i'*. ♀ ad. sk.	Omilteme (8000 ft.), State of Guerrero, July (*Mrs. H. H. Smith*).	Salvin-Godman Coll.
k', *l'*. ♂ ad. sk.	Xantipa, State of Guerrero, July (*Mrs. H. H. Smith*).	Salvin-Godman Coll.
m'. ♀ ad. sk.	Sierra Madre del Sur (*Mrs. H. H. Smith*).	Salvin-Godman Coll.

n'. ♀ ad. sk.	Oaxaca, W. Mexico (*Fenochio*).	Salvin-Godman Coll.
o'. ♂ ad.; *p'*, *q'*. ♀ ad. sk.	Cayo, Western District, British Honduras, Dec. (*F. Blancaneaux*).	Salvin-Godman Coll.
r'. ♂ ad.; *s'*, *t'*. ♀ ad. sk.	Southern Pine-ridge, British Honduras, May, Dec. (*F. Blancaneaux*).	Salvin-Godman Coll.
u', *v'*, *w'*. ♂ ad. sk.	Guatemala.	Tweeddale Coll.
x', *y'*. ♂ ad.; *z'*. ♀ ad. sk.	Volcan de Fuego, Guatemala, Sept. (*O. S.*).	Salvin-Godman Coll.
a''. ♂ ad. sk.	Volcan de Fuego, Nov. (*O. S.*).	Tweeddale Coll.
b''. ♀ ad. sk.	Alotepeque, Guatemala (*O. S.*)	Salvin-Godman Coll.
c'', *d''*. ♂ ♀ ad. sk.	Honduras.	Sclater Coll.
e''. ♂ ad. sk.	Dota, Costa Rica, July (*J. Carmiol*, Sm. no. 35202).	Salvin-Godman Coll.
f''. ♀ ad. sk.	San José, Costa Rica (*A. von Frantzius*, Sm. no. 33484).	Salvin-Godman Coll.
g''. ♂ ad. sk.	Volcan de Cartago, Costa Rica (*E. Arcé*).	Salvin-Godman Coll.
h''. ♂ ad. sk.	Volcan de Chiriqui, Veragua (*E. Arcé*).	Salvin-Godman Coll.

Subsp. *a*. **Melanerpes melanopogon.**

Picus melanopogon, *Temm. Pl. Col.* 451, ♀ (1828); *Wagl. Isis*, 1829, p. 515; *Less. Compl. Buff.* ix. p. 319 (1837); *Sundev. Consp. Av. Picin.* p. 51 (1866).

Picus formicivorus (*non Swains.*), *Less. Compl. Buff.* ix. p. 318 (1837); *Vig. Zool. Beech. Voy.* 1839, p. 23.

Melanerpes formicivorus, *Gray, Gen. B.* ii. p. 444 (1846); *Gamb. Journ. Acad. Philad.* 1847, p. 56; *Reichenb. Scans. Picinæ*, p. 383, no. 885, pl. dcxliii. figs. 4295–96, ♂ ♂ (1854); *Cass. B. Calif.* p. 7, pl. ii. ♂ ♀ ad. (1856); *Sclat. P. Z. S.* 1856, p. 307, 1857, p. 127, 1858, p. 305; *Baird, B. Amer.* p. 114 (1858); *id. U. S. & Mex. Bound. Surv.* 1858, p. 6; *Coues, Ibis*, 1865, p. 162; *Gray, List Picid. Brit. Mus.* p. 116 (1868); *id. Hand-l. B.* ii. p. 201, no. 8816 (1870); *Coop. B. Calif. ed. Baird*, 1870, p. 403 (heads of ♂ ♀ figured); *Coues, Key N. Amer. B.* 1872, pp. 196, 197; *Hensh. U. S. Geogr. Surv. W. of 100th Merid.* p. 399 (1875); *Ridgw. U. S. Geol. Expl. 40th Par., Orn.* p. 553 (1877); *Beld. Proc. U. S. Nat. Mus.* 1878, pp. 390–393, 430; *Ridgw. op. cit.* 1880, p. 189, no. 377; pt., *Salv. Cat. Strickl. Coll.* p. 397, no. 1944 (1882).

Melampicos melanopogon, *Malh. N. Classif., Mém. Acad. Metz*, 1848-49, p. 336; *id. Rev. et Mag. de Zool.* 1849, p. 542.

Melanerpes melanopogon, *Bp. Consp. Gen. Av.* i. p. 115 (1850); *id. Consp. Volucr. Zygod.* p. 10, no. 207 (1854).

Picus melampogon, *Licht. Nomencl. Av.* p. 76 (1854).

Melampicus formicivorus, *Malh. Picidæ*, ii. p. 199, pl. xcix. figs. 1 ♂ ad., 2 ♀ ad., 3 ♀ juv. (1862).

Melanerpes formicivorus, var. formicivorns, *B. B. & R. Hist. N. Amer. B.* ii. p. 566, pl. liii. figs. 1 ♂ ad., 2 ♀ ad. (1874).

Melanerpes formicivorus bairdi, *Coues, Check-l. N. Amer. B.* p. 79, no. 454 (1882); *id. Key N. Amer. B.* 2nd ed. p. 489, no. 454, fig. 341, head of ♂ (1884); *Scott, Auk*, 1885, pp. 174, 356; *A. O.*

U. Check-list, 1886, p. 216, no. 407; *Scott, Auk*, 1886, p. 427; *Shufeldt, op. cit.* 1887, p. 345; *Ridgw. Man. N. Amer. B.* p. 291 (1887).

Adult male. Resembles *M. formicivorus*, but differs in having across the chest a broad band of black glossed with greenish blue, but with the same red central spot close to the yellow throat; with rather more black on the upper throat; the sides of the body, flanks, and thighs having less broad striations. Total length 8·8 inches, culmen 1·3, wing 5·8, tail 3·3, tarsus 0·85; toes (without claws)—outer anterior 0·73, outer posterior 0·73, inner anterior 0·53, inner posterior 0·4.

Male nestlings are very similar to the adult male, but are duller red on the top of the head.

Adult female. Differs from the adult male in having the crown crossed by a broad black band, which separates the narrower white frontal band from the very broad crimson occipital one. Total length 8·5 inches, culmen 1·3, wing 5·82, tail 3·32, tarsus 0·8.

Nestling, female. Has the crown red as in the male. The general distribution of colour as in the adult; the dark markings on the underparts more dusky, those of the flanks being bar-like.

Hab. Pacific coast-region of the United States, north to British Columbia, through California into Arizona and New Mexico, and through the pine-regions of Mexico (except the extreme Southern and South-eastern States).

a. ♂ ad. sk.	San Gorgonia, California, May (*F. Stephens*).	G. Frean Morcom, Esq. [P.].
b. Imm sk.	Petalume, near San Francisco (*F. Gruber*, Sm. no. 23235).	Salvin-Godman Coll.
c. ♂ ad. sk.	Nevada, Cal., Sept. (*E. W. Nelson, Hensh. Coll.*).	Salvin-Godman Coll.
d. ♂ ad. sk.	Greenwood Valley, Eldorado Co., Cal., Jan. (*A. Forrer, Hensh. Coll.*).	Salvin-Godman Coll.
e. ♂ ad. sk.	Nepa Valley, Cal (*Hensh. Coll.*).	Salvin-Godman Coll.
f. ♀ ad.; *g*. ♂ imm. sk.	Fort Tejon, Cal., Aug. (*H. Wheeler, Hensh. Coll.*).	Salvin-Godman Coll.
h. ♂ ad. sk.	Fort Tejon, Aug. (*J. Xantus, Hensh. Coll.*).	Salvin-Godman Coll.
i. ♀ ad. sk.	Anderson, Cal., May (*W. E. Brewster, Hensh. Coll.*).	Salvin-Godman Coll.
k. ♂ ad. sk.	Sunal, Cal., Feb. (*W. E. Brewster, Hensh. Coll.*).	Salvin-Godman Coll.
l. ♂ ad. sk.	Redwood Co., Cal., April (*Hensh. Coll.*).	Salvin-Godman Coll.
m. ♀ ad. sk.	Jolon, Cal., Oct. (*Hensh. Coll.*).	Salvin-Godman Coll.
n. ♂ ad. sk.	Los Alamos, Cal., Oct. (*Hensh. Coll.*).	Salvin-Godman Coll.
o, *p*. ♂ ♀ ad. sk.	San Diego Co., Cal., Oct. (*R. B. Herron*).	Salvin-Godman Coll.
q. ♀ ad. sk.	White Sulphur Springs, Sept. (*Hensh. Coll.*).	Salvin-Godman Coll.
r, *s*. ♂ imm. sk.	Fort Whipple, Arizona, Nov. (*E. Coues, Hensh. Coll.*).	Salvin-Godman Coll.

t. ♀ ad. sk.	Apache, Ariz., Oct. (*Hensh. Coll.*).	Salvin-Godman Coll.
u. ♀ ad. sk.	Crittenden, Ariz., Sept. (*Hensh. Coll.*).	Salvin-Godman Coll.
v. ♂ ad.; *w*. ♀ juv. sk.	Pinal Co., Ariz., July, Oct. (*W. E. D. Scott, Hensh. Coll.*).	Salvin-Godman Coll.
x–*c'*. ♂ ad.; *d'*, *e'*, *f'*. ♀ ad. sk.	Santa Fé Mts., New Mexico, Aug., Sept. (*Hensh. Coll.*).	Salvin-Godman Coll.
g'. ♂ ad. sk.	Sonora (*W. Lloyd*).	Salvin-Godman Coll.
h'. ♂ ad. sk.	Jesus Maria, Chihuahua, Dec. (*W. Lloyd*).	Salvin-Godman Coll.
i'. ♀ ad. sk.	San José, Chihuahua, Jan. (*W. Lloyd*).	Salvin-Godman Coll.
k'. ♂ ad. sk.	Refugio, Chihuahua, Dec. (*W. Lloyd*).	Salvin-Godman Coll.
l'. ♂ ad. sk.	Tomochic, Chihuahua, Dec. (*W. Lloyd*).	Salvin-Godman Coll.
m'. ♀ ad. sk.	Pinos Altos, Chihuahua, Mexico, July (*Buchan-Hepburn*).	Salvin-Godman Coll.
n', *o'*. ♂ ad.; *p'*, *q'*, *r'*. ♀ ad. sk.	Sonora, Chihuahua, April (*W. Lloyd*).	Salvin-Godman Coll.
s', *t'*. ♂ ♀ ad. sk.	Ciudad Durango, July, Nov. (*A. Forrer*).	Salvin-Godman Coll.
u', *v'*, *w'*. ♂ ad. et imm.; *x'*, *y'*. ♀ ad. sk.	Sierra Jerez, Zacatecas, Sept. (*W. B. Richardson*).	Salvin-Godman Coll.
z'. ♀ ad. sk.	Sierra de Valparaiso, Zacatecas, Sept. (*W. B. Richardson*)	Salvin-Godman Coll.
a'', *b''*. ♂ imm. sk.	Sierra Valparaiso, Zacatecas, July (*W. B. Richardson*).	Salvin-Godman Coll.
c'', *d''*. ♂ ♀ ad. sk.	Zapotlan, Jalisco, March, April (*W. Lloyd*).	Salvin-Godman Coll.
e'', ♂ ad.; *f''*, *g''*. ♀ ad. sk.	Sierra Madre, Tepic, 6000 feet, June (*W. B. Richardson*).	Salvin-Godman Coll.
h'', *i''*. ♂ ad.; *k''*. ♀ ad. sk.	Sierra, San Luis Potosi, July (*W. B. Richardson*).	Salvin-Godman Coll.
l''. ♂ ad. sk.	Chimalpa, Tucubaya, April.	Salvin-Godman Coll.
m''. ♂ ad. sk.	Mexicalcingo, Tlalpam, Feb.	Salvin-Godman Coll.
n''. ♂ ad.; *o''*. ♀ ad. sk.	Sola, Oaxaca, April (*M. Trujillo*).	Salvin-Godman Coll.
p''. ♀ ad. sk.	Juchatengo, Oaxaca *, April (*M. Trujillo*).	Salvin-Godman Coll.
q''. ♀ ad. sk.	S. Mexico.	Sclater Coll.

Subsp. β. **Melanerpes angustifrons.**

Melanerpes formicivorus, var. angustifrons, *Coop. B. Calif. ed. Baird*, p. 405 (heads of ♂ ♀ figured) (1870); *B. B. & R. Hist. N. Amer. B.* p. 573, pl. liii. figs. 3 ♂, 4 ♀ (1874).

Melanerpes formicivorus angustifrons, *Ridgw. Proc. U. S. Nat. Mus.* 1880, pp. 190, 219, no. 377 *a*; *Beld. op. cit.* 1882, p. 549; *Coues, Check-l. N. Amer. B.* 1882, p. 79, no. 455; *Beld. Proc. U. S. Nat. Mus.* 1883, p. 349; *Coues, Key N. Amer. B.* 2nd ed. 1884, p. 490, no. 455; *A. O. U. Check-list*, 1886, p. 216, no. 407 *a*; *Ridgw. Man. N. Amer. B.* p. 291 (1887).

Adult male. Resembles *M. formicivorus* in having the black

* I cannot separate the Oaxaca specimens from *M. melanopogon*; it is possible that this species ranges so far southwards occasionally only.

chest striped with white, but differs from that species as well as from *M. melanopogon* in having the white frontal band narrower, and together with the chin and throat more strongly washed with lemon-yellow. Total length 8·5 inches, culmen 1·1, wing 5·45, tail 3·1, tarsus 0·85; toes (without claws)—outer anterior 0·73, outer posterior 0·73, inner anterior 0·53, inner posterior 0·35.

Adult female. Has the crown crossed by a black band, but is otherwise like the adult male. It differs from the females of *M. formicivorus* and *M. melanopogon* in having the white and the black bands together less in width (longitudinally) than the red band on the occiput and nape. Total length 8 inches, culmen 1·15, wing 5·2, tail 3, tarsus 0·75.

Hab. Southern portion of Lower California.

a. ♂ ad.; *b*, *c*. ♀ ad. sk. Sierra de Laguna, California, May, June (*M. Abott Frazar, Hensh. Coll.*). Salvin-Godman Coll.

d. ♂ ad. sk. Triumfo, Lower California, Dec. (*M. Abott Frazar, Hensh. Coll.*). Salvin-Godman Coll.

4. Melanerpes flavigula.

Picus melanopogon (*non Temm.*), *Lafr. Rev. Zool.* 1844, p. 81.

Melampicos flavigula (*non Bodd.*), *Malh. Rev. et Mag. de Zool.* 1849, p. 522.

Melanerpes formicivorus (*non Swains.*), *Bp. Consp. Gen. Av.* i. p. 115 (1850).

Melanerpes melanopogon (pt.), *Bp. Consp. Volucr. Zygod.* p. 10, no. 207 (1854).

Melanerpes flavigula, *Reichenb. Scans. Picinæ*, p. 384, no. 886, pl. dcxliii. figs. 4297–99, ♀ ♂ ♂ (1854); *Sclat. P. Z. S.* 1855, p. 161; *Gray, List Picid. Brit. Mus.* p. 115 (1868); *id. Hand-l. B.* ii. p. 201, no. 8815 (1870); *Salv. Cat. Strickl. Coll.* p. 398, no. 1945 (1882).

Melanerpes flavigularis, *Sclat. P. Z. S.* 1856, p. 307; *id. Cat. Am. B.* p. 341, no. 2036 (1862); *Wyatt, Ibis*, 1871, p. 381; *Sclat. & Salv. Nomencl. Av. Neotr.* p. 100 (1873); *id. P. Z. S.* 1879, p. 533.

Melampicus flavigula, *Malh. Picidæ*, ii. p. 202, pl. xcix. figs. 5 ♂ ad., 6 ♀ ad. (1862).

Picus flavigularis, *Sundev. Consp. Av. Picin.* p. 51 (1866).

Adult male. Differs from the male of *M. formicivorus* in having the crown black and occiput (only) red, in this respect resembling the female of *M. formicivorus*, except that in the latter species the black space between the white forehead and red occiput is narrower and has more the appearance of a band; upon the chest there is an approach to a black belt as in *M. melanopogon*, but it is narrow and varied with a few greyish-white stripes. Total length 8·8 inches, culmen 1·07, wing 5·6, tail 2·9, tarsus 0·76; toes (without claws)—outer anterior 0·75, outer posterior 0·75, inner anterior 0·54, inner posterior 0·34.

Adult female. Wants the red occipital band, but is otherwise like the male. Total length 8·8 inches, culmen 1·05, wing 5·43, tail 3·25, tarsus 0·85.

The young female resembles the adult of the same sex, but is more of a sooty black above, with much less of the greenish-blue gloss possessed by the adult, this being almost entirely wanting on the top of the head and on the hind neck; the white of the underparts less pure, and with dusky striations.

Hab. U. S. Colombia.

a, b. ♀ ad. sk.	U. S. Colombia.	Tweeddale Coll.
c, d. ♂ ad. sk.	Bogotá.	Sclater Coll.
e. ♂ ad. sk.	Bogotá (*Chesterton*).	Salvin-Godman Coll.
f, g. ♂ ♀ ad. sk.	Bogotá.	Purchased.
h. ♀ ad. sk.	Retiro, Antioquia (*T. K. Salmon*).	Salvin-Godman Coll.
i. ♂ ad. sk.	Retiro, Antioquia (*T. K. Salmon*).	Sclater Coll.
k. ♂ ad. sk.	Santa Elena, Antioquia (*T. K. Salmon*).	Salvin-Godman Coll.
l. ♀ ad. sk.	Potreros, Magdalena Valley, U. S. Colombia (*C. W. Wyatt*).	Salvin-Godman Coll.

5. Melanerpes xantholarynx.

Melanerpes xantholarynx, *Reichenb. Scans. Picinæ*, p. 384, no. 887, pl. dexliii. figs. 4293–94, ♂ ♂ (1854); *Gray, List Picid. Brit. Mus.* p. 116 (1868); *id. Hand-l. B.* ii. p. 201, no. 8817 (1870).

Melampicus xantholarynx, *Malh. Picidæ*, ii. p. 204, pl. c. fig. 6, ♂ (1862).

Picus xantholarynx, *Sundev. Consp. Av. Picin.* p. 51 (1866).

Adult male. From the description and figure of this species given by Reichenbach, it appears to differ from *M. formicivorus* (Swains.) in having the face and side of the neck white, without any black stripe running through and behind the eye; the chin and throat golden-ochre, devoid of black, the malar region alone being of the latter colour; the yellow throat is separated from the white neck and chest by a few stripe-like spots of black, there being also a few similar spots on the side of the neck; the underparts are striated with black; but there is not a trace of even a narrow black band on the chest, this being, like the rest of the underparts, white striped with black. The measurements, according to Reichenbach, are as follows:—Length 9″ 6‴, culmen 11‴, wing 5″ 6‴, tail 3″ 5‴, tarsus 11‴.

Hab. Mexico?

6. Melanerpes cruentatus.

Lesser Black Woodpecker, var. A, *Lath. Gen. Syn.* ii. p. 559, ♂ (1782).

Lesser Black Woodpecker, var. B, *Lath. Gen. Syn.* ii. p. 560, ♂ ♀ (1782).

Le petit Pic noir, *Buff. Hist. Nat. Ois.* vii. p. 54 (1783).

Petit Pic noir de Cayenne, *Daubent. Pl. Enl.* no. 694, fig. 2.

Picus cruentatus, *Bodd. Tabl. Pl. Enl.* p. 43, 694, 2 (1783).

Picus hirundinaceus, γ, *Gm. Syst. Nat.* i. p. 426, ♂ (1788); *Lath. Ind. Orn.* i. p. 227, ♂ ♀ (1790).

Picus hirundinaceus, β, *Gm. Syst. Nat.* i. p. 426, ♀ (1788); *Lath. Ind. Orn.* i. p. 227, ♂ (1790).
Picus hirundinaceus *, *Temm. Cat. Syst.* p. 62 (1807); *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 87, ♂ (1818); *id. & Bonn. Enc. Méth.* p. 1315, ♂ (1823); *Wagl. Syst. Av.* Picus, sp. 64, ♂ (*nec* fœmina) (1827); *id. Isis*, 1829, p. 515; *Sundev. Consp. Av. Picin.* p. 50 (1866).
Picus occipitalis, *Valenc. Dict. Sc. Nat.* xl. p. 172, ♀ (1826); *Less. Traité*, i. p. 223 (1831).
Picus ischnorhynchos, *Wagl. Syst. Av.* Picus, sp. 66, ♂ (1827).
Picus meropirostris, *Wagl. Syst. Av.* Picus, sp. 65, ♂ (1827).
Melanerpes meropirostris, *Bp. P. Z. S.* 1837, p. 120; *Gray, Gen. B.* ii. p. 444 (1846); *Bp. Consp. Gen. Av.* i. p. 115 (1850); *Reichenb. Scans. Picinæ*, p. 384, no. 888 (1854); *Gray, List Picid. Brit. Mus.* p. 119 (1868); *id. Hand-l. B.* ii. p. 202, no. 8826 (1870).
Centurus hirundinaceus, *Gray, Gen. B.* ii. p. 442 (1846); *Cab. in Schomb. Reis. Guian.* iii. p. 714 (1848).
Melampicos hirundinaceus, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 364.
Melanerpes hirundinaceus, *Bp. Consp. Gen. Av.* i. p. 116, ♀ (1850); *Sclat. P. Z. S.* 1858, p. 460; *Pelz. Orn. Bras.* p. 248 (1870); *Tacz. P. Z. S.* 1874, p. 546; *Pelz. Verhandl. k.-k. zool.-bot. Gesellsch. Wien*, 1882, p. 448.
Tripsurus saucius, *Licht. Nomencl. Av.* p. 76 (1854).
Phymatoblepharus hirundinaceus, *Reichenb. Scans. Picinæ*, p. 379, no. 876, pl. dcxli. fig. 4277, ♂ (1854).
Phymatoblepharus ischnorhynchos, *Reichenb. Scans. Picinæ*, p. 379, no. 877 (1854).
Tripsurus hirundinaceus, *Bp. Consp. Volucr. Zygod.* p. 10, no. 209 (1854).
Tripsurus meropirostris, *Bp. Consp. Volucr. Zygod.* p. 10, no. 212 (1854).
Melanerpes cruentatus, *Sclat. P. Z. S.* 1855, p. 161; *id. Cat. Amer. B.* p. 341, no. 2040 (1862); *id. & Salv. P. Z. S.* 1866, p. 197; *iid. op. cit.* 1867, pp. 587, 753; *Gray, List Picid. Brit. Mus.* p. 118 (1868); *id. Hand-l. B.* ii. p. 201, no. 8825 (1870); *Sclat. & Salv. P. Z. S.* 1873, p. 291; *iid. Nomencl. Av. Neotr.* p. 100 (1873); *iid. P. Z. S.* 1875, p. 237; *iid. op. cit.* 1879, p. 632; *Salv. Cat. Strickl. Coll.* p. 398, no. 1947 (1882); *Tacz. P. Z. S.* 1882, p. 43; *id. Orn. Pérou*, iii. p. 89 (1884).
Melampicus hirundinaceus, *Malh. Picidæ*, ii. p. 192, pl. xcviii. figs. 4 ♂ ad., 5 ♀ ad., 6 ♂ juv. (1862).
Melampicus meropirostris, *Malh. Picidæ*, ii. p. 197 (1862).

Adult male. General colour glossy blue-black, the rump and upper tail-coverts white: the middle of the breast, the abdomen, and a large quadrate patch on the crown vermilion: a yellowish-white superciliary stripe extending to the nape, which is golden yellow; the inner webs of the quills more or less spotted with white, and the base of the inner webs of the central pair of tail-feathers spotted or margined with white; shafts of quills and of tail-feathers black, the central pair of the latter white at the base; the sides of

* Some ornithologists refer *Picus hirundinaceus* of Linnæus to the present species; but the brief diagnosis and synonymy given by that author (Syst. Nat. i. p. 174, 1766) do not seem to warrant this, and I have no alternative but to leave it an open question.

the body, flanks, thighs, and under tail-coverts barred with white more or less tinged with yellow; under wing-coverts and axillaries white barred with black. Total length 7·3 inches, culmen 1·15, wing 4·55, tail 2·2, tarsus 0·85; toes (without claws)—outer anterior 0·65, outer posterior 0·7, inner anterior 0·45, inner posterior 0·35.

Adult female. Has no red on the crown, but otherwise resembles the adult male. Total length 7·3 inches, culmen 0·98, wing 4·55, tail 2·2, tarsus 0·75.

Young, probably male. Resembles, generally, the adult male, but differs in having the black of the plumage less glossed with blue; the red patch upon the crown smaller and of a duller crimson, the anterior part of the malar region having a dull white spot; the sides of the body, flanks, and thighs scarcely tinged with yellow, and the under tail-coverts varied with squamate markings of black and white, instead of being evenly barred; the margin of the outer webs of the secondaries spotted on the apical half with dull white.

In some examples (apparently belonging to this species) said to be from Guiana, the white or yellowish-white stripe bordering the forehead and crown is wanting, but exists on the side of the occiput, although it is not constant. In this plumage the species differs only from *M. rubrifrons* in possessing the yellow nuchal band.

Hab. New Granada; Venezuela and British Guiana; northern part of Brazil into Pernambuco; the Amazonian region; Ecuador; Northern, Eastern, and Central Peru; Bolivia, and into Matto Grosso.

a, b. ♂ ♀ ad. sk.	Bogotá, Colombia.	Purchased.
c, d. ♂ ♀ ad. sk.	Bogotá.	Salvin-Godman Coll.
e, f. ♂ ad.; *g, h, i.* ♀ ad. sk.	Bogotá.	Tweeddale Coll.
k, l. ♂ ♀ ad. sk.	Sarayacu, Ecuador (*C. Buckley*).	Salvin-Godman Coll.
m. ♀ ad. sk.	E. Peru (*W. Nation*).	Sclater Coll.
n. ♂ ad. sk.	Chyavetas, E. Peru, Aug. (*E. Bartlett*).	Salvin-Godman Coll.
o. ♂ ad. sk.	Ucayali River, June (*J. Hauxwell*).	Gould Coll.
p, q. ♂ ad. sk.	Simacu, Bolivia (*C. Buckley*).	Salvin-Godman Coll.
r, s. ♂ ad. sk.	Chapada, Matto Grosso, Sept. (*H. Smith*).	Salvin-Godman Coll.
t. ♀ ad. sk.	Rio Negro.	Tweeddale Coll.
u, v. ♂ ♀ ad. sk.	Rio Negro (*A. R. Wallace*).	Sclater Coll.
w. ♂ ad. sk.	Pernambuco (*Craven*).	Sclater Coll.

7. Melanerpes rubrifrons.

Lesser Black Woodpecker, var. A, *Lath. Gen. Syn.* ii. p. 560, ♀ (1782).

Picus rubrifrons, *Spix, Av. Bras.* i. p. 61, pl. lv. figs. 1 ♂, 2 ♀ (1824); *Wagl. Syst. Av.* Picus, sp. 67 (1827), ♂; *id. Isis*, 1829, p. 515, ♀; *Sundev. Consp. Av. Picin.* p. 50 (1866).

Picus hirundinaceus (*non Gm.*), *Valenc. Dict. Sc. Nat.* xl. p. 172 (1826), ♂; *Wagl. Syst. Av.* Picus, sp. 64, ♀ (1827).

Centurus rubrifrons, *Gray, Gen. B.* ii. p. 442 (1846).
Melanerpes rubrifrons, *Bp. Consp. Gen. Av.* i. p. 116, ♂ (1850); *Scl. Cat. Amer. B.* p. 341, no. 2039 (1862); *Gray, List Picid. Brit. Mus.* p. 118 (1868); *id. Hand-l. B.* ii. p. 201, no. 8824 (1870); *Pelz. Orn. Bras.* p. 247, ♂ (1870); *Scl. & Salv. Nomencl. Av. Neotr.* p. 100 (1873); *E. L. Layard, Ibis*, 1873, p. 391; *Salv. op. cit.* 1886, p. 59.
Phymatoblepharus rubrifrons, *Reichenb. Scans. Picinæ*, p. 380, no. 878, pl. dcxli. figs. 4278 juv., 4279 ♂ ad. (1854).
Tripsurus rubrifrons, *Bp. Consp. Volucr. Zygod.* p. 10, no. 210 (1854).
Melampicus rubrifrons, *Malh. Picidæ*, ii. p. 196, pl. xcviii. figs. 1, 2, ♂ ♀ ad. (1862).
Melampicus melanocephalus, *Malh. Picidæ*, ii. p. 195 (1862).
Melanerpes melanocephalus, *Pelz. Orn. Bras.* p. 247 (1870), ♀.

Adult male. Differs from *M. cruentatus* in wanting the superciliary stripe and the yellow nuchal band, and also in having the red patch on the crown smaller. Total length 7·3 inches, culmen 1, wing 4·35, tail 2·3, tarsus 0·8; toes (without claws)—outer anterior 0·63, outer posterior 0·66, inner anterior 0·5, inner posterior 0·32.

Adult female. Wants the red on the top of the head, but is in other respects similar to the adult male. Total length 7·3 inches, culmen 0·95, wing 4·05, tail 2·25, tarsus 0·7.

Young (♂?). Has the red more spread over the crown and of a less brilliant crimson than in the adult male; the plumage (generally) more dusky or sooty brown; the feathers of the back and chest only slightly glossed with blue-black; underparts below the breast dull white (only slightly rufescent), with dusky bars; the middle of the lower breast and the abdomen orange-red.

Occasionally specimens both of adult and young are found which have a short white stripe above the posterior part of the eye.

Hab. Guiana, and extending north into Trinidad; Northern Brazil east to Para.

a, *b*. ♂ ad. et juv. sk.	Barra, Rio Negro, Jan. (*A. R. Wallace*).	Salvin-Godman Coll.
c, *d*. ♂ ♀ ad. sk.	Para, Lower Amazons, Jan. (*E. L. Layard*).	Tweeddale Coll.
e. ♀ ad. sk.	Cayenne.	Salvin-Godman Coll.
f. ♀ ad. sk.	Cayenne.	Sclater Coll.
g. ♀ ad. sk.	Maroni River, Surinam (*Kappler*).	Salvin-Godman Coll.
h. ♂ ad. sk.	Guiana (*Brown*).	Sclater Coll.
i. ♂ ad. sk.	River Apapurow, British Guiana, Jan. (*H. Whitely*).	Salvin-Godman Coll.
k. ♀ ad. sk.	Camacusa, March (*H. W.*).	Salvin-Godman Coll.
l. ♀ ad. sk.	Merumé Mts., July (*H. W.*)	Salvin-Godman Coll.
m. ♂ ad. sk.	Bartica Grove, Oct. (*H. W.*).	Salvin-Godman Coll.

8. Melanerpes portoricensis.

Picus portoricensis, *Daud. Ann. Mus. d'Hist. Nat.* ii. p. 285, pl. li. (1803); *Sundev. Consp. Av. Picin.* p. 50 (1866); *Bryant, Proc. Bost. Soc. N. Hist.* 1866, p. 256.

Picus rubidicollis, *Vieill. Ois. Amér. Sept.* ii. p. 63, pl. cxvii. (1807); *Shaw, Gen. Zool.* ix. p. 156 (1815); *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 75 (1818); *id. & Bonn. Enc. Méth.* iii. p. 1321 (1823); *Wagl. Syst. Av.* Picus, sp. 62 (1827); *Drap. Dict. Class.* xiii. p. 499 (1828).

Le Pic à ventre ensanglanté, *Temm. Cat. Syst.* pp. 65, 210 (1807).

Melanerpes portoricensis, *Valenc. Dict. Sc. Nat.* xl. p. 172 (1826); *Drap. Dict. Class.* xiii. p. 505 (1828); *A. & E. Newton, Ibis*, 1859, p. 377; *Cass. Proc. Acad. Philad.* 1860, p. 377; *Scl. Cat. Amer. B.* p. 341, no. 2037 (1862); *Cav.-Taylor, Ibis*, 1864, p. 170; *Gray, List Picid. Brit. Mus.* p. 115 (1868); *id. Hand-l. B.* ii. p. 201, no. 8819 (1870); *Scl. & Salv. Nomencl. Av. Neotr.* p. 100 (1873); *Gundl. An. Soc. Esp. Hist. Nat.* vii. p. 227 (1878); *Cory, List B. W. Ind.* p. 20 (1885); *id. Auk*, 1886, p. 377.

Picus carolinus (*non Linn.*), *Less. Traité*, i. p. 227 (1831).

Melanerpes rubidicollis, *Gray, Gen. B.* ii. p. 444 (1846); *Bp. Consp. Gen. Av.* i. p. 115 (1850); *id. Consp. Volucr. Zygod.* p. 10, no. 208 (1854); *Licht. Nomencl. Av.* p. 76 (1854); *Reichenb. Scans. Picinæ*, p. 383, no. 884, pl. dcxliii. figs. 4289-90 (1854).

Melampicus portoricensis, *Malh. Picidæ*, ii. p. 205, pl. xcvii. fig. 5, ♂ ad. (1862).

Adult male. Frontal band, nasal plumes, and orbital region white; the remainder of the head, neck, entire back and upper rump, wings, and tail black, with a steel-green gloss; shafts of quills and of tail-feathers black; lower rump and upper tail-coverts white; cheeks, chin and throat, the middle of the chest and breast, also the entire abdomen and vent, crimson; sides of the body and under tail-coverts pale umber-brown, slightly dusky on the sides of the breast and thighs, the latter having a few red striations; under wing-coverts white; edge of wing black; axillaries smoky white. Total length 8 inches, culmen 1·2, wing 4·8, tail 2·9, tarsus 0·85; toes (without claws)—outer anterior 0·75, outer posterior 0·65, inner anterior 0·55, inner posterior 0·4.

Hab. Porto Rico.

a. Ad. sk.	Porto Rico.	Dr. H. Bryant [C.].
b. Imm. sk.	Porto Rico (*R. Swift*).	U.S. Nat. Mus. [P.].
c. Ad. sk.	Porto Rico (*Dr. H. Bryant*).	Salvin-Godman Coll.
d, e. Ad. et imm. sk.	Porto Rico (*G. Latimer*).	Salvin-Godman Coll.
f. ♂ ad. sk.	Porto Rico (*C. P. Streator, Cory Coll.*).	Salvin-Godman Coll.
g. Imm. sk.	Porto Rico (*R. Swift*).	Sclater Coll.
h. Ad. sk.	Porto Rico (*Dr. H. Bryant*).	Sclater Coll.
i. Ad. sk.	Bieque Island (*Riise*).	Sclater Coll.

9. Melanerpes chrysauchen.

Melanerpes chrysauchen, *Salv. P. Z. S.* 1870, p. 213; *id. & Scl. Nomencl. Av. Neotr.* p. 100 (1873).
Picus chrysauchen, *Gieb. Thes. Orn.* iii. p. 150 (1876).

Adult male. Resembles *M. flavifrons* (Vieill.), but differs in having the whole of the upper back striped with white: the lower back spotted with black; the nape yellow; the loral region and a stripe under the eye white, the nasal plumes yellow; the black stripe behind the eye broader and extending right down the side of the neck, and with a white spot behind the eye; the malar region and chin pale olivaceous yellow grading into darker dingy pale olive on the fore neck, chest, and breast, the crimson being confined to the abdomen; the innermost secondaries slightly spotted with white on the outer webs. Total length 6·5 inches, culmen 1·05, wing 4·4, tail 2·25, tarsus 0·7; toes (without claws)—outer anterior 0·65, outer posterior 0·65, inner anterior 0·5, inner posterior 0·3.

Adult female. Differs from the adult male in the absence of the red crown and occiput, the forehead and the greater part of the crown being bright yellow, with a stripe of black above the eye and a band of the same on the hind part of the crown, the occiput and nape being dull yellow. Total length 6·3 inches, culmen 1, wing 4·4, tail 2, tarsus 0·75.

Hab. Veragua, State of Panama.

a. ♂ ad.; *b*, *c.* ♀ ad. sk.	Bugaba, Chiriqui, Veragua (*E. Arcé*).	Salvin-Godman Coll. (Types of the species.)
d, *e.* ♂ ♀ ad. sk.	Chiriqui (*E. Arcé*).	Sclater Coll.

10. Melanerpes pulcher. (Plate III.)

Melanerpes pulcher, *Scl. P. Z. S.* 1870, p. 330; *Wyatt, Ibis*, 1871, pp. 129, 380; *Scl. & Salv. Nomencl. Av. Neotr.* p. 100 (1873); *id. P. Z. S.* 1879, p. 533; *Berlepsch, Ibis*, 1880, p. 114.
Picus pulcher, *Gieb. Thes. Orn.* iii. p. 175 (1876).

Adult male. Resembles *M. chrysauchen*, but differs in having the frontal band and the nasal plumes buffy white, only slightly tinged with yellow; with more red on the top of the head anteriorly; with no white spot behind the eye; the throat and chest duller, and the barring on the underparts extending on to the breast and covering it. Total length 7·5 inches, culmen 1·1, wing 4·4, tail 2·15, tarsus 0·78; toes (without claws)—outer anterior 0·63, outer posterior 0·63, inner anterior 0·45, inner posterior 0·3.

Adult female. Differs from the adult male in having the red on the head confined to the occiput. Total length 7 inches, culmen 1, wing 4·3, tail 2·1, tarsus 0·73.

Hab. U. S. Colombia.

a, b. ♂ ♀ ad. sk.	Naranjo, Magdalena valley, U. S. Colombia (*C. W. Wyatt*).	Sclater Coll.
c, d. ♂ ♀ ad. sk.	Naranjo (*C. W. Wyatt*).	Salvin-Godman Coll.
e, f. ♂ ♀ ad. sk.	Bogotá.	Sclater Coll. (Types of species.)
g. ♀ ad. sk.	Bogotá.	Salvin-Godman Coll.
h, i. ♂ ♀ ad. sk.	Remedios, Antioquia (*T. K. Salmon*).	Salvin-Godman Coll.

11. Melanerpes flavifrons.

Carpintero vientre roxo, *Azara, Apunt. Hist. Nat. Páxar. Parag.* ii. p. 316, no. cclv. (1805).

Picus flavifrons, *Vieill. N. Dict.* xxvi. p. 75, ♂ ♀ (1818); *Spix, Av. Bras.* i. p. 60, pl. lii. figs. 1 ♀, 2 ♂ (1824); *Wagl. Syst. Av.* Picus, sp. 63 (1827); *Sundev. Consp. Av. Picin.* p. 50 (1866).

Picus rubriventris, *Vieill. N. Dict.* xxvi. p. 103 ♂ (1818); *id. & Bonn. Enc. Méth.* iii. p. 1324 (1823), ♂; *Vieill. Gal. Ois.* i. pt. 2, p. 8, pl. xxvii., ♂ (1825); *Less. Traité*, i. p. 224 (1831); *id. Compl. Buff.* ix. p. 321 (1837).

Picus coronatus, *Licht. Verz. Doubl.* p. 10, ♂ ♀ (1823); *Valenc. Dict. Sc. Nat.* xl. p. 173, ♂ (1826); *Drap. Dict. Class.* xiii. p. 497, ♂ (1828); *Max. Beitr. Nat. Bras.* iv. 1, p. 419 (1832).

Picus rufiventris, *Drap. Dict. Class.* xiii. p. 507, ♂ (1828).

Picus erythrogaster, *Beckl. N. Mém. Soc. Nat. Mosc.* i. p. 377, pl. xxii., ♂ (1829).

Tripsurus flavifrons, *Swains. Classif. B.* ii. p. 311 (1837); *Bp. Consp. Volucr. Zygod.* p. 10, no. 211 (1854); *Gray, List Gen. B.* 1855, p. 93.

Centurus flavifrons, *Gray, Gen. B.* ii. p. 442 (1846).

Centurus coronatus, *Hartl. Ind. Azara*, p. 16 (1847).

Melampicos flavifrons, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 364.

Melanerpes flavifrons, *Bp. Consp. Gen. Av.* i. p. 116 (1850); *Sel. Cat. Amer. B.* p. 341, no. 2038 (1862); *Gray, List Picid. Brit. Mus.* p. 118 (1868); *id. Hand-l. B.* ii. p. 201, no. 8823 (1870); *Pelz. Orn. Bras.* p. 248 (1870); *Scl. & Salv. Nomencl. Av. Neotr.* p. 100 (1873); *Salv. Cat. Strickl. Coll.* p. 398, no. 1946 (1882); *Berl. & Jher. in Madar. Zeitsch. gesamm. Orn.* 1885, p. 159.

Tripsurus coronatus, *Licht. Nomencl. Av.* p. 76 (1854); *Burm. Syst. Ueb.* ii. p. 239 (1856).

Phymatoblepharus flavifrons, *Reichenb. Scans. Picinæ*, p. 380, no. 879, pl. dcxliii. figs. 4291–92, ♀ ♂ ad. (1854).

Melampicus flavifrons, *Malh. Picidæ*, ii. p. 207, pl. c. figs. 2, 3 ♂ ad., 4 ♀ ad. (1862).

Adult male. Upper and middle back blue-black centred with numerous white stripes; the lower back, rump, and upper tail-coverts white; scapulars, wing-coverts, and quills black, more or less glossed with blue, the inner webs of the quills spotted with white, the shafts being black; tail black, the inner webs of the central pair of feathers having occasionally one or two transverse spots of white; shafts black; forehead, chin, throat, and malar region golden yellow; nasal plumes, lores, orbital region, and a

broad stripe behind the eye black; crown, occiput, and nape crimson; side of the neck and upper part and sides of the chest ashy olive, yellower on the fore neck, the sides of the chest with varied spots of black; the middle of the lower chest, breast, and abdomen crimson; the remainder of the underparts fulvescent white barred with black; under tail-coverts black, with bars and squamate markings of white, and having fulvescent white margins; under wing-coverts white, the axillaries yellowish, both being barred with black; the edge of the wing black, with a few white spots. Total length 8 inches, culmen 1, wing 4·75, tail 2·8, tarsus 0·8; toes (without claws)—outer anterior 0·72, outer posterior 0·72, inner anterior 0·55, inner posterior 0·32.

Adult female. Differs from the adult male in the absence of red on the head, the crown and occiput being deep blue-black. Total length 8 inches, culmen 1·05, wing 4·5, tail 2·45, tarsus 0·7.

Hab. Southern Brazil, north into Minas Geraes and Goyaz, and ranging into Paraguay.

a, b. ♂ ad. et juv.; *c, d.* ♀ ad. sk.	Brazil.	Tweeddale Coll.
e. ♂ ad. sk.	Brazil.	Sclater Coll.
f. ♂ ad. sk.	Brazil.	Riocour Coll.
g–h. ♂ ♀ ad. sk.	Brazil.	Purchased.
i, k. ♂ ♀ ad. sk.	Minas Geraes (*H. Rogers*).	Salvin-Godman Coll.
l. ♂ ad. sk.	Rio Claro, Prov. Goyaz (*Joyner*).	Salvin-Godman Coll.
m. ♂ ad. sk.	Novo Friburgo, S.E. Brazil (*J. Vouds*).	Salvin-Godman Coll.
n. ♂ ad. sk.	San Paulo, S. Brazil (*Joyner*).	Salvin-Godman Coll.
o, p. ♂ ad.; *q.* ♀ imm. sk.	Rio Grande do Sul.	Tweeddale Coll.
r. Skel.		

12. Melanerpes cactorum.

Picus cactorum, *Lafr. & d'Orb. Voy. Amér. Mérid.* iv. p. 378, pl. lxii. fig. 2 ♀ (1835–44); *Tsch. Consp. Av. Rep. Peruan. in Wiegmann's Arch. für Naturg.* 1844, p. 303, no. 252; *Gray, Gen. B.* ii. p. 435 (1845); *Bp. Consp. Gen. Av.* i. p. 139 (1850); *Malh. Picidæ*, i. p. 102, pl. xxv. figs. 1, 2, ♂ ♀ (1861); *Scl. Cat. Amer. B.* p. 333, no. 1989 (1862); *Sundev. Consp. Av. Picin.* p. 32 (1866); *Gray, List Picid. Brit. Mus.* p. 50 (1868); *id. Hand-l. B.* ii. p. 186, no. 8615 (1870); *Scl. & Salv. Nomencl. Av. Neotr.* p. 99 (1873); *Lee, Ibis*, 1873, p. 134; *Scl. & Salv. P. Z. S.* 1879, p. 63; *Salv. Ibis*, 1880, p. 361; *White, P. Z. S.* 1882, p. 617; *Barrows, Auk*, 1884, p. 25; *Tacz. Orn. Pérou*, iii. p. 77 (1886); *Scl. & Huds. Arg. Orn.* ii. p. 19 (1889).

Picus (Gecinus) cactorum, *Cab. in Tsch. Faun. Peruan., Aves*, p. 267 (1845–46).

Colaptes cactorum, *Reichenb. Scans. Picinæ*, p. 417, no. 979, pl. dclxix. figs. 4433–34, ♀ ♀ (1854).

Trichopicus cactorum, *Bp. Consp. Volucr. Zygod.* p. 8, no. 37 (1854).

Dendrobates cactorum, *Burm. J. f. O.* 1860, p. 244; *id. Reise La Plata-St.* ii. p. 445 (1861).
Cactocraugus cactorum, *Cab. & Heine, Mus. Hein.* iv. p. 72 (1863).

Adult male. Back and scapulars black, the former striped with drab down the centre; rump and upper tail-coverts white, with broken bars of black; wing-coverts black, the lesser and the median series having the apical portion drabby white spotted with black, the light part of the feathers forming a conspicuous patch on the wing, the greater series spotted with white on both webs; quills blackish brown, spotted with white on both webs, the shafts dusky brown; tail-feathers brownish black, entirely barred with white upon both webs, the shafts black; nasal plumes and sinciput white, slightly drab; hinder part of the crown, the occiput, upper part of face, and a broad stripe bordering the nape black, and in the middle of the crown a longitudinal spot of crimson; chin and throat golden yellow; lores and malar region creamy white, grading into vinous drab on the side of the neck, nape, and hind neck; under surface of the body and under tail-coverts brownish buff, the thighs and under tail-coverts with bar-like spots and bars of black; under wing-coverts and axillaries drab. Total length 6·7 inches, culmen 0·8, wing 4·1, tail 2·3, tarsus 0·77; toes (without claws)—outer anterior 0·58, outer posterior 0·6, inner anterior 0·43, inner posterior 0·32.

Adult female. Resembles the adult male, but wants the red feathers in the centre of the crown: "beak black; legs grey; iris brown" (*Alan Peel*). Total length 7 inches, culmen 0·83, wing 4·1, tail 2·15, tarsus 0·63.

The young female has the chin and upper throat white (not yellow), and the underparts smoky grey, instead of brownish buff as in the adult.

Hab. Peru (probably in the southern part only), Bolivia, Argentine Republic, and Lower Uruguay.

a, b. ♂ ♀ ad. sk.	Bolivia.	T. Bridges [C.].
c. ♀ juv. sk.	Bolivia.	Purchased.
d, e. ♂ ♀ ad. sk.	Mendoza, Arg. Rep. (*Weisshaupt*).	Sclater Coll.
f, g. ♂ ♀ ad. sk.	Mendoza, Feb. (*Weisshaupt*).	Salvin-Godman Coll.
h. ♀ ad. sk.	Mendoza (*Weisshaupt*).	Tweeddale Coll.
i. ♂ ad. st.	Mendoza.	Mr. Weisshaupt [C.].
k. ♀ juv. sk.	Salta, Arg. Rep.	H. Durnford, Esq. [C.].
l. ♂ ad.; *m, n* ♀ ad. sk.	Uruguay.	Alan Peel, Esq. [C.].

13. **Melanerpes herminieri.**

Picus herminieri, *Less. Traité*, i. p. 228 (1831); *Des Murs, Icon. Orn.* pl. xxxviii. (1849); *Sundev. Consp. Av. Picin.* p. 51 (1866).
Melampicos herminieri, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 365.
Melanerpes herminieri, *Bp. Consp. Gen. Av.* i. p. 115 (1850); *Reichenb. Scans. Picinæ*, p. 381, no. 880, pl. dcxlii. figs. 4280–81 (1854); *Gray, List Picid. Brit. Mus.* p. 117 (1868); *id. Hand-l.*

B. ii. p. 201, no. 8822 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 100 (1873); *Lawr. Proc. U.S. Nat. Mus.* i. pp. 459, 487 (1878); *Cory, List B. W. Ind.* p. 20 (1885); *id. Auk*, 1886, p. 377.

Linnæipicus herminieri, *Bp. Consp. Volucr. Zygod.* p. 10, no. 225 (1854).

Linneopicus herminieri, *Gray, Cat. Gen. B.* 1855, p. 93.

Melampicus herminieri, *Malh. Picidæ*, ii. p. 198, pl. c. fig. 1 (1862).

*Adult (female?)**. Uniform black glossed with greenish blue, the feathers of the throat, fore neck, chest, and breast tipped with dull purplish crimson, this colour being less prominent on the throat and fore neck; the shafts of the quills and of the tail-feathers black: "iris reddish chocolate" (*F. A. Ober*). Total length 10·5 inches, culmen 1·3, wing 5·2, tail 3·65, tarsus 0·97; toes (without claws)—outer anterior 0·88, outer posterior 0·83, inner anterior 0·64, inner posterior 0·35.

Adult male. From the description given by Mr. Cory (Auk, 1886, p. 377) the male would appear to differ from the female solely in having "a faint reddish tinge on the forehead," although this is "possibly not constant." Mr. Lawrence (Proc. U. S. Nat. Mus. 1878, p. 459) gives the measurements as follows:—"Length 11·0, wing $5\frac{1}{2}$" (*F. A. Ober*).

Hab. Guadeloupe, West Indies.

a. ♂ [? ad.] sk. Island of Guadeloupe, West Indies, Sept. (*Ober*). Sclater Coll.

14. **Melanerpes pucherani.**

Picus carolinus, var. *d*, *Lath. Ind. Orn.* i. p. 231, sp. 18 (1790).

Picus aurifrons (*non Wagl.*), *Less. Rev. Zool.* 1839, p. 102; *Wagn. Arch. für Naturg.* 1841, p. 100.

Zebrapicus pucherani, *Malh. Rev. Zool.* 1849, p. 542; *Bp. Consp. Volucr. Zygod.* p. 11, no. 224 (1854); *Malh. Picidæ*, ii. p. 227, pl. ciii. figs. 1, 2, ♂ ♀ (1862).

Centurus pucherani, *Bp. Consp. Gen. Av.* i. p. 120, no. 9 (1850); *Reichenb. Scans. Picinæ*, p. 411, n.o. 909 (1854); *Sclat. & Salv. Ibis*, 1859, p. 136; *Moore, P. Z. S.* 1859, p. 60; *Sclat. & Salv. Ibis*, 1860, p. 43; *Sclat. P. Z. S.* 1860, pp. 286, 297; *Lawr. Ann. Lyc. N. Y.* 1861, p. 229; *Cab. J. f. O.* 1862, p. 328; *Sclat. Cat. Amer. B.* p. 342, no. 2044 (1862); *id. & Salv. P. Z. S.* 1864, p. 367; *iid. op. cit.* 1867, p. 280; *iid. op. cit.* 1870, p. 837; *Salv. Ibis*, 1872, p. 320; *Sclat. & Salv. Nomencl. Av. Neotr.* p. 101 (1873); *Boucard, P. Z. S.* 1878, p. 49; *Nutting, Proc. U.S. Nat. Mus.* vi. p. 406 (1883).

Zebrapicus gerini, *Malh. Picidæ*, ii. p. 231 (1862).

Picus gerini, *Sundev. Consp. Av. Picin.* p. 55 (1866).

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* As this species is represented in the Collection by a single male, which appears to be not fully adult, I have drawn up my description from the type (an adult bird) in the Paris Museum. I take it to be a female, not only on account of the absence of any red tinge on the forehead, but also of the measurements, the wing being only 5·2, Mr. Ober (Lawr. Proc. U.S. Nat. Mus. 1878, p. 459) giving the length of wing in the female as 5·25.

Centurus gerinii, *Gray, List Picid. Brit. Mus.* p. 101 (1868); *Lawr. Ann. Lyc. N. Y.* 1868, p. 131; *Gray, Hand-l. B.* ii. p. 197, no. 8765 (1870); *Giebel, Thes. Orn.* i. p. 609 (1872).
Melanerpes pucherani, *Berl. & Tacz. P. Z. S.* 1883, p. 571; *iid. op. cit.* 1885, pp. 107, 123; *Ridgw. Man. N. Amer. B.* p. 291 (1887).

Adult male. Back and scapulars blue-black narrowly barred with white; rump and upper tail-coverts white, sometimes slightly spotted or varied with black; wings and their coverts black, the lower series of the coverts, both webs of the secondaries, and the inner webs of the primaries spotted with white; shafts blackish brown; tail black, the inner webs of the central pair of feathers barred with white, the outer webs with a longitudinal white stripe at the base, the outer large feather with transverse white spots on the apical portion of both webs; shafts black; nasal plumes and base of forehead golden-yellow; crown, occiput, and nape crimson: lores, lower half of face, chin, and throat buffy or drabby white; the upper half of the face and the posterior half of the side of the neck black, with a white spot behind the eye; anterior half of the side of the neck, fore neck, and chest smoky brown, with a strong fulvescent tinge and almost olive; the remaining underparts fulvescent white barred with black, the abdomen crimson; under tail-coverts also fulvescent white, with squamate markings of black and white; under wing-coverts and axillaries white (slightly yellowish), barred with black. Total length 7·5 inches, culmen 1·07, wing 4·52, tail 2·3, tarsus 0·82; toes (without claws)—outer anterior 0·6, outer posterior 0·65, inner anterior 0·5, inner posterior 0·37.

Adult female. Differs from the adult male in having the fore part of the crown dingy buffy white, the feathers having a black spot at the tip, the outer edge and the hinder part of the crown black; a narrow olivaceous ashy band on the occiput and a broad nuchal band (only) of scarlet. Total length 7 inches, culmen 1, wing 4·22, tail 2·05, tarsus 0·77.

Hab. Southern Mexico, Guatemala, and Honduras, through Nicaragua, Costa Rica, and Veragua into New Granada and Western Ecuador, south to Babahoyo.

a. ♀ ad. sk.	Mexico.	Gould Coll.
b, c. ♂ ♀ ad. sk.	Mexico.	Tweeddale Coll.
d. ♂ ad. sk.	Orizaba, Mexico.	Sclater Coll.
e. ♂ ad. sk.	Guatemala.	Gould Coll.
f. ♀ ad. sk.	Vera Paz (*O. Salvin*).	Sclater Coll.
g. ♂ ad. sk.	Sources of the Rio de la Pasion, Vera Paz.	Salvin-Godman Coll.
h. ♀ ad. sk.	Chisec, Vera Paz.	Salvin-Godman Coll.
i. ♂ ad. sk.	Yzabal, Guatemala.	Salvin-Godman Coll.
k. ♀ ad. st.	Honduras.	Mr. Dyson [C.].
l, m. ♂ ad. sk.	British Honduras (*Blancaneaux*).	Salvin-Godman Coll.
n. ♀ ad. sk.	Chontales, Nicaragua, Jan. (*T. Belt*).	Salvin-Godman Coll.
o. ♂ ad. sk.	San José, Costa Rica (*J. Carmiol*).	Salvin-Godman Coll

p. ♂ ad. sk.	Turrialba, Costa Rica (*E. Arcé*).	Salvin-Godman Coll.
q, r. ♂ ♀ ad. sk.	Panama (*J. McLeannan*).	Salvin-Godman Coll.
s, t. ♂ ♀ ad. sk.	Babahoyo, Ecuador (*L. Fraser*).	Sclater Coll.
u, v. ♂ ♀ ad. sk.	Santa Rita, Ecuador.	Salvin-Godman Coll.

15. Melanerpes radiolatus.

Picus carolinus (pt.), *Linn. Syst. Nat.* i. p. 175 (1766); *Gm. Syst. Nat.* i. p. 431, sp. 10 (1788).
Carolina Woodpecker, var. A, *Lath. Gen. Syn.* ii. p. 571 (1782).
L'Épeiche ou Pic varié de la Jamaique, *Buff. Hist. Nat. Ois.* vii. p. 407, ♂ (1783).
Pic varié femelle de la Jamaique, *Daubent. Pl. Enl.* 597, ♂ ad.
Picus jamaicensis, *Brown, Nat. Hist. Jam.* p. 474 (1789).
Picus carolinus, var. *β*, *Lath. Ind. Orn.* i. p. 231 (1790).
Picus radiolatus, *Wagl. Syst. Av.* Picus, sp. 39, ♂ ad. (1827); *id. Isis*, 1829, p. 512; *Sundev. Consp. Av. Picin.* p. 52 (1866).
Picus albifrons *, *Swains. Phil. Mag.* i. p. 439 (1827); *Wagl. Isis*, 1829, p. 514.
Picus larvatus, *Temm. Pl. Col.* liv. 73, art. on *P. superciliaris* (1827).
Centurus radiolatus, *Gray, Gen. B.* ii. p. 442 (1846); *Gosse, B. Jam.* p. 271 (1847); *Bp. Consp. Gen. Av.* i. p. 118 (1850); *id. Consp. Volucr. Zygod.* p. 11, no. 215 (1854); *Reichenb. Scans. Picinæ*, p. 409, no. 961, pl. dclxiii. fig. 4406 (♂ ad. incorrect) (1854); *Sclat. P. Z. S.* 1861, p. 79; *id. Cat. Amer. B.* p. 343, no. 2046 (1862); *Marsh, Proc. Philad. Acad.* 1863, p. 284; *Sclat. & Salv. Nomenel. Av. Neotr.* p. 100 (1873); *Ridgw. Proc. U.S. Nat. Mus.* 1881, p. 111; *A. & E. Newton, Handb. Jam.* p. 109 (1881); *Salv. Cat. Strickl. Coll.* p. 399, no. 1951 (1882); *Cory, List B. W. Ind.* p. 20 (1885); *id. Auk*, iii. p. 378 (1886).
Zebrapicus radiolatus, *Malh. Picidæ*, ii. p. 237, pl. civ. figs. 5, 6, ♂ ♀ ad. (1862).

Adult male. Above, including the wings and tail and their coverts black, the back and scapulars very narrowly barred with greyish white, the rump and upper tail-coverts more broadly barred with the same; the wing-coverts and innermost secondaries very narrowly barred with white, the remaining secondaries transversely spotted with white on both webs, the inner webs of the primaries spotted on the basal half, or less, some of the outer webs having one or two small spots of white; shafts black; the central pair of tail-feathers very narrowly barred with white, the outer large feather externally spotted; shafts black; nasal plumes, frontal band, almost the entire face, also the chin and throat, creamy white; crown, occiput, and nape crimson; hind neck like the back; hinder part of the face smoky brown, the side of the neck and fore neck dusky olive, grading into the white throat; the underparts deep golden olive, the abdomen tinged with crimson; the vent, thighs, and under tail-coverts black narrowly barred with white, the feathers margined at the tip with olive-yellow or dull orange; under wing-coverts black barred with

* I entirely agree with Dr. Ridgway (P. U. S. N. M. 1881, p. 111, note) in thinking that *P. albifrons* of Swainson was founded on the Jamaican species *M. radiolatus*.

white, the axillaries olivaceous grey. Total length 10 inches, culmen 1·62, wing 5·3, tail 3·3, tarsus 0·95; toes (without claws)—outer anterior 0·8, outer posterior 0·83, inner anterior 0·65, inner posterior 0·4.

Adult female. Differs from the adult male in having the crown smoky grey, with a few transverse markings of black, the occiput and nape (only) red. Total length 10·5 inches, culmen 1·4, wing 5·1, tail 3·3, tarsus 0·96.

Young male. Differs from the adult male in having the crown dusky, but with some of the feathers tipped with crimson; the underparts less bright golden olive, and varied with transverse dusky spots or faint bars; the thighs and under tail-coverts dusky black barred with dull white, not tinged with yellow.

Hab. Confined to the island of Jamaica.

a, b. ♂ ad. st.	Jamaica.	Purchased.
c. ♀ ad. sk.	Jamaica.	Philip Gosse, Esq. [C.].
d. ♂ ad. sk.	Jamaica.	Tweeddale Coll.
e, f. ♂ ♀ ad. sk.	Jamaica.	Sclater Coll.
g, h. ♂ ♀ ad. sk.	Moneague, Jamaica, Feb. (*Dr. Bryant*).	Mrs. Bryant [P.].
i, k, l. ♂ ad. et imm. sk.	Moneague, Feb., Aug.	Salvin-Godman Coll.
m. ♀ ad. sk.	Near Spanish Town, Jamaica (*W. W. Marsh*).	Salvin-Godman Coll.
n. Sternum.		Purchased.

16. Melanerpes superciliaris.

Picus superciliaris, *Temm. Pl. Col.* iv. pl. 433, ♂ ad. (1827); *Less. Man. d'Orn.* p. 112 (1828); *Drap. Dict. Class.* xiii. p. 505 (1828); *Wagl. Isis*, 1829, p. 515; *Less. Traité*, i. p. 227, ♂ (1831); *Thienem. J. f. O.* 1857, p. 153; *Sundev. Consp. Av. Picin.* p. 55 (1866).

Colaptes superciliaris, *Vig. Zool. Journ.* iii. p. 445 (1828); *Wagner, Arch. für Naturg.* 1841, p. 100; *Ramon de la Sagra, Hist. Phys. Cuba, Av.* p. 111, pl. xxiii., var. alb. (1838); *D'Orb. & Sagra, Hist. Phys. Cuba, Orn.* p. 146 (1839); *Lembeye, Av s Cuba*, p. 131 (1850).

Picus striatus (*non Gm.*), *Less. Traité*, i. p. 227, ♀ (1831).

Picus subocularis, *Less. Descr. d'Ois. Réc. Découv.* 1847, p. 205, no. 33, ♂.

Colaptes superciliosus, *Gray, Gen. B.* ii. p. 446 (1846).

Zebrapicus superciliaris, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 361; *id. Picidæ*, ii. p. 223, pl. cii. figs. 1, ♂ (ad. ?), 2 ♀ ad., 3 ♀ ad. alb. (1862).

Centurus superciliaris, *Bp. Consp. Gen. Av.* i. p. 118, no. 1 (1850); *id. Consp. Volucr. Zygod.* p. 11, no. 214 (1854); *Reichenb. Scans. Picinæ*, p. 408, no. 958, pl. dclxii. figs. 4400 ♂ ad., 4401 ♀ alb. (1854); *Gundl. J. f. O.* 1856, p. 103; *Brewer, Proc. Bost. Soc. Nat. Hist.* vii. p. 307 (1860); *Sclat. Cat. Amer. B.* p. 342, no. 2042 (1862); *Gundl. Repert.* 1866, p. 294; *Sclat. & Salv. Nomencl. Av. Neotr.* p. 101 (1873); *Ridgw. Proc. U.S. Nat. Mus.* 1881, p. 115; *Cory, List B. W. Ind.* p. 20 (1885); *id. Auk*, iii. p. 379 (1886).

Melanerpes superciliaris, *Ridgw. Man. N. Amer. B.* p. 292 (1887).

Adult male. Above, including tail-coverts, and the wing-coverts barred black and white, the back and scapulars washed with yellowish: quills black, the basal portion of the primaries white, and the apical margin also white; the secondaries barred with white upon both webs; shafts black; the central pair of tail-feathers white, narrowly barred and tipped with black, the remaining feathers black, the two outermost large ones on either side barred with white on more or less of their apical half; shafts black; nasal plumes reddish cream-colour; base of the forehead, hinder part of the crown, occiput, and nape crimson; frontal band, lores, and region above and below the anterior half of the eye creamy white; above the posterior half of the eye and running backwards a broad black stripe or spot; posterior portion of the face dull cream-colour; the chin and throat drab, grading into ashy brown on the sides of the neck, chest, and breast, and strongly fulvescent below, the abdomen being crimson, and the thighs barred with dusky black; under tail-coverts fulvescent white barred with black; under wing-coverts white (slightly yellowish) with varied black markings, the axillaries uniform dingy yellowish white. Total length 11 inches, culmen 1·7, wing 6, tail 3·85, tarsus 1·1; toes (without claws)—outer anterior 0·85, outer posterior 0·87, inner anterior 0·6, inner posterior 0·45.

Adult female. Differs from the adult male in having the greater part of the crown buffy white, with a smoky tinge posteriorly, the hind part of the crown and the occiput black, striped with smoky grey; the nape (as in the male) crimson. Total length 11 inches, culmen 1·53, wing 5·3, tail 3·9, tarsus 0·93.

Young (♂?). Resembles the adult male, but differs in having scarcely a trace of red at the base of the forehead, the latter being dull white with dusky spots; the red on the crown and occiput very much duller, and the black portion of the crown-feathers showing through; the upper parts with hardly any fulvescent tinge, and the barring less black, and dusky on the rump; underparts only slightly fulvescent, and the red on the abdomen not so intense; the barring on the flanks, thighs, vent, and under tail-coverts dusky.

Hab. Cuba.

a. ♂ ad. sk.	Cuba.	Zoological Society.
b. ♂ ad. sk.	Cuba.	Mrs. Bryant [P.].
c. ♀ ad. sk.	Cuba (*C. Wright*).	U.S. Nat. Mus. [P.].
d. ♂ ad. sk.	Cuba.	Sclater Coll.
e, *f*. ♂ ad.; *g*, *h*. ♀ ad.; *i*. Juv. sk.	Cuba.	Salvin-Godman Coll.

17. Melanerpes blakii.

Centurus blakei *, *Ridgw. Auk*, iii. p. 337 (1886).
Melanerpes blakei, *Ridgw. Man. N. Amer. B.* p. 292 (1887).

* Certainly comes very close to *M. nyeanus* from Watlings Island, Bahamas, judging from the description of that species given by Dr. Ridgway.

Adult male. Resembles *M. superciliaris*, but differs in being smaller, and having very much less white on the plumage; the white on the base of the primaries broadly barred with black; the tail shorter and the central pair of feathers black, barred with white, the black interspaces slightly narrower than the bars; the nasal plumes less red; the posterior half of the face darker and more of a drab; the neck and chest vinous drab, the underparts somewhat similar in colour and tinged with yellow, but very much less so than *M. superciliaris*. Total length 10·3 inches, culmen 1·4, wing 5·33, tail 3·65, tarsus 0·9; toes (without claws)—outer anterior 0·8, outer posterior 0·8, inner anterior 0·55, inner posterior 0·35.

Adult female. Has no red on the crown, the anterior portion being ashy drab, blending into the buffy-white frontal band, the posterior part black with transverse markings of ashy grey; the occiput and nape (alone) being red. Total length 9·8 inches, culmen 1·32, wing 5, tail 3·6, tarsus 0·9.

Hab. Abaco, Bahamas.

18. **Melanerpes nyeanus.**

Centurus nyeanus, *Ridgw. Auk*, iii. p. 336 (1886).
Melanerpes nyeanus, *Ridgw. Man. N. Amer. B.* p. 292 (1887).

Adult male. "Similar to *C. superciliaris* (Temm.) of Cuba, but much smaller, the white bars of upper parts and grey of lower parts almost devoid of yellow tinge; red of belly and black superciliary spot more restricted, and outer webs of middle tail-feathers without spots. Wing 5·20, tail 4·00, culmen 1·50, tarsus 0·92." (*Ridgway*).

Hab. Watlings Island, Bahamas.

19. **Melanerpes caymanensis.**

Centurus caymanensis, *Cory, Auk*, iii. pp. 499 & 502 (1886).

Adult male. Differs from both of the Bahaman species, and also from the Cuban *M. superciliaris*, in wanting the black patch above and behind the posterior part of the eye, also in the black bars on the upper parts being narrower, and the light bars drabby white; the nasal plumes slightly red; the frontal band and the anterior half of the face pale drab (not white); the whole of the underparts brownish drab and less fulvescent. In the amount and distribution of white on the wings and tail this species is much more closely allied to the Bahaman species *M. nyeanus* and *M. blakii*, but, apart from the more important specific differences, it is less in size than either of these. Total length 9·5 inches, culmen 1·25, wing 5·15, tail 3·6, tarsus 0·92; toes (without claws)—outer anterior 0·82, outer posterior 0·82, inner anterior 0·6, inner posterior 0·35.

Adult female. Has the crown smoky or dusky grey, the red being confined to the occiput and nape. In other respects the sexes are

alike. Total length 9·3 inches, culmen 1·25, wing 4·7, tail 3·4, tarsus 0·9.

Hab. Island of Grand Cayman, West Indies.

a, *b*. ♂ ad. sk.	Grand Cayman, W. I. (*C. P. Streator, Cory Coll.*).	Salvin-Godman Coll.

20. Melanerpes carolinus.

The Red-bellied Woodpecker, *Catesby, Nat. Hist. Carol.* i. p. 19, pl. xix. fig. 1, ♂ (1731).

Picus carolinus, *Linn.* (*ex Catesby*) *Syst. Nat.* i. p. 174 (1766); *Forster, Cat. Anim. N. Amer.* p. 10 (1771); *Gm. Syst. Nat.* i. p. 431, sp. 10 ♂, var. β ♀, var. γ ♂ sen. (1788); *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 77 (1818); *Valenc. Dict. Sc. Nat.* xl. p. 181 (1826); *Drap. Dict. Classif. d'Hist. Nat.* xiii. p. 496 (1828); *Wils. Bp. & Jard. Amer. Orn.* i. p. 113, pl. vii. fig. 2, ♂ (non syn.) (1832); *Nuttall, Man. Orn.* i. p. 572 (1832); *Aud. Orn. Biog.* v. p. 169, *Atlas*, pl. 415. fig. 3 ♂ ad., pl. 416. fig. 4 ♀ (1839); *id. Synop.* 1839, p. 183; *Peabody, B. Massach.* p. 336 (1841); *Aud. B. Amer.* iv. p. 270, pl. cclxx. (1842); *De Kay, Nat. Hist. N. Y.* p. 189, pl. xvii. fig. 37, ♂ (1844); *Sundev. Consp. Av. Picin.* p. 53 (1866).

Carolina Woodpecker, var. B, *Lath. Gen. Syn.* ii. p. 571 (1782).

Épeiche ou Pic rayé de la Louisiane, *Buff. Hist. Nat. Ois.* vii. p. 409 (1783); *Daubent. Pl. Enl.* 692, ♂ ad.

Picus zebra, *Bodd. Tabl. Pl. Enl.* p. 43, no. 692 (1783).

Picus carolinus, var. γ, *Lath. Ind. Orn.* i. p. 231 (1790).

Picus griseus, *Vieill. Ois. Amér. Sept.* ii. p. 62, pl. cxvi. ♂ ad. (1807); *Bonn. & Vieill. Enc. Méth.* p. 1308 (1823).

Picus carolinensis, *Wils. Amer. Orn.* i. p. 113, pl. vii. fig. 2, ♂ (1808).

Picus erythrauchen, *Wagl. Syst. Av.* Picus, sp. 38 (1827); *id. Isis*, 1829, p. 513.

Centurus carolinensis, *Swains. Classif. B.* ii. p. 310 (1837); *Seton, Auk*, 1885, p. 335.

Centurus carolinus, *Bp. Geogr. & Comp. List*, p. 40, no. 264 (1838); *Gray, List Gen. Brit. Mus.* i. p. 71 (1841); *id. Gen. B.* ii. p. 442, pl. cx. fig. 3 (1846); *Bp. Consp. Gen. Av.* i. p. 119, no. 3 (1850); *id. Consp. Volucr. Zygod.* p. 11 (1854); *Reichenb. Handb. Scans. Picinæ*, p. 408, no. 959, pl. dclxiii. figs. 4402–3, ♂ ♀ (1854); *Sclat. P. Z. S.* 1857, p. 8; *Baird, B. N. Amer.* 1858, p. 109; *id. Cat. N. Amer. B.* 1859, no. 91; *Sclat. Cat. Amer. B.* p. 342, no. 2045 (1862); *Cab. J. f. O.* 1862, p. 324; *Cav.-Taylor, Ibis*, 1862, p. 128; *Allen, Proc. Essex Inst.* iv. p. 53 (1864); *Dresser, Ibis*, 1865, p. 469; *Gray, List Picid. Brit. Mus.* p. 99 (1868); *id. Hand-l. B.* ii. p. 197, no. 8758 (1870); *Allen, Bull. M. C. Z.* ii. p. 306 (1871); *Coues, Key N. Amer. B.* p. 196 (1872); *Allen, Bull. M. C. Z.* iii. p. 180 (1872); *Coues, Check-list*, 1873, no. 306; *Ridgw. Bull. Essex Inst.* 1873, p. 185; *Coues, B. N. West*, p. 289 (1874); *B., B., & R. Hist. N. Amer. B.* ii. p. 554, pl. lii. figs. 1 ♂, 4 ♀ (1874); *Brewster, Ann. Lyc. N. Y.* xi. p. 144 (1875); *Nels. Bull. Essex Inst.* viii. p. 116 (1876); *Brewster, Bull. Nutt. Orn. Club*, 1877, p. 108; *Mayn. Bds. Florida*, p. 226, pl. xviii. (1878); *Mearns, Trans. Conn. Acad.* 1878, p. 146; *Ridgw. Proc. U. S. Nat. Mus.*

iii. p. 189, no. 372 (1880); *Ridgw. Proc. U. S. Nat. Mus.* 1881, p. 99; *Coues, Check-list,* 1882, no. 450; *id. Key N. Amer. B.* 1884, p. 488; *Drew, Auk,* 1885, p. 17; *Agersborg, tom. cit.* p. 283.

Zebrapicus carolinus, *Malh. N. Classif., Mém. Acad. Metz,* 1848–49, p. 361; *id. Picidæ,* ii. p. 234, pl. ciii. figs. 7 ♂ ad., 8 ♀ ad. (1862).

Melanerpes carolinus, *Ridgw. Ann. Lyc. N. Y.* 1874, p. 378; *A. O. U. Check-list N. Amer. B.* p. 217, no. 409 (1886); *Ridgw. Man. N. Amer. B.* p. 293 (1887); *Warren, B. Penn.* p. 135 (1888).

Adult male. Back and scapulars, also the wing-coverts, barred black and pure white; rump and upper tail-coverts white, the former varied with V-shaped markings of black, the latter nearly uniform; quills black, the primaries having the base of the inner web white partially barred with black, the outer webs at the base spotted with white; secondaries spotted upon both webs, and the innermost barred across with white, the tips of the quills white, and the shafts black; tail black, the inner webs of the central pair of feathers barred with white, the outer web longitudinally striped at the base with white, the two outer large feathers on either side tipped and transversely spotted with white on more or less of the apical portion; shafts black; nasal plumes buffy drab washed with red; top of the head, occiput, and nape bright red; face, neck, and the whole of the under surface of the body drab-grey, whiter on the chin and throat, the anterior part of the face, the chest, and the abdomen more or less tinged with red, below the chest being also delicately tinged with yellow, the thighs barred and spotted with black; under tail-coverts white, with stripes and varied markings of black; under wing-coverts white, transversely spotted with black, axillaries smoky white. Total length 9 inches, culmen 1·35, wing 5·25, tail 3·3, tarsus 0·9; toes (without claws)—outer anterior 0·6, outer posterior 0·65, inner anterior 0·46, inner posterior 0·32.

Adult female. Has the crown pale ashy grey anteriorly, leaden grey posteriorly, the occiput and nape red as in the male, which it also in other respects resembles. Total length 9 inches, culmen 1·22, wing 5·35, tail 3·38, tarsus 0·9.

Young male. Differs from the adult male in having the under-parts covered with almost obsolete dusky striations; the forehead and crown dusky brown with drab transverse markings, and with a faint tinge of red on some of the feathers; the occiput and nape drabby brown with faint dusky bars, and very slightly tinged with red; the abdomen with a yellowish or pinkish tinge; under mandible yellowish at the base (below).

Hab. Eastern United States, to the Rocky Mountains, has occurred as far north as Toronto, and is rare east of the Hudson River, extends south into Florida and Southern Texas.

a. ♂ ad. sk.	Canada.	Tweeddale Coll.
b. ♂ ad. sk.	Michigan.	Prof. Steere [P.].
c. ♀ ad. sk.	Locust Grove, New York, winter (*Dr. Bagg*).	Henshaw Coll. [S.

d. ♀ ad. sk.	Madisonville, Hamilton Co., Ohio (*F. W. Langdon*).	
e. ♀ ad. sk.	Evanston, Illinois, Oct. (*E. W. Nelson*).	
f. ♂ imm.; *g.* ♂ juv. sk.	Fox Prairie, Richland Co., Ill., Aug. (*E. W. Nelson*).	Henshaw Coll. [S.-G.].
h–k. ♂ ad.; *l.* ♀ ad. sk.	Mt. Carmel, Ill., April, Oct., Nov. (*R. Ridgway*).	
m, n, o. ♂ ad. et imm. sk.	Mt. Carmel, July (*E. W. Nelson*).	
p, q. ♂ ♀ ad. sk.	Washington, D.C.	Salvin-Godman Coll.
r. ♀ ad. sk.	Florida.	W. B. Dismore, Esq. [P.].
s. ♂ ad.; *t, u.* ♀ ad. et imm. sk.	Cedar Keys, Florida, Dec. (*Henshaw*).	
v. ♂ ad. sk.	Bluffton, Florida, March (*Henshaw*).	
w. ♂ ad. sk.	Hawk, Florida, April (*B. H. Warren*).	
x. ♀ ad. sk.	Hawkensville, Florida, March (*B. H. Warren*).	Henshaw Coll. [S.-G.].
y. ♀ ad. sk.	Volusia Co., Florida, March (*B. H. Warren*).	
z. ♀ ad. sk.	Okahumkee, Florida, April (*Hart Merriam*).	
a′. ♂ ad. sk.	Florida (*E. W. Nelson*).	
b′, c′. ♂ ad.; *d′, e′, f′.* ♀ ad. sk.	Florida, Aug., Sept., Oct. (*W. Hoxie*).	
g′. Imm. sk.	Texas.	Tweeddale Coll.
h′. ♀ ad. sk.	[Mexico.]	J. Gould, Esq. [P.].

21. **Melanerpes dubius.**

Picus carolinensis (*non Linn.*), *Cabot, App. Steph. Trav. Yucat.* ii. p. 475 (1843).

Picus dubius, *Cabot, Proc. Bost. Soc. Nat. Hist.* i. p. 164 (1844); *id. Bost. Journ. Nat. Hist.* v. p. 91 (1845).

Picus erythrophthalmus, *Licht. Nomencl. Av.* p. 76 (1854).

Centurus santa cruzi (pt.), *Sclat. & Salv. Ibis*, 1859, p. 136.

Zebrapicus erythrophthalmus, *Malh. Picidæ*, ii. p. 243, pl. cv. figs. 1 ♂, 2 ♀ (1862).

Centurus albifrons (*non Swains.*), *Gray, List Picidæ Brit. Mus.* p. 102 (1868); *Lawr. Ann. Lyc. N. Y.* ix. p. 205 (1869); *Gray, Hand-l. B.* ii. p. 198, no. 8768 (1870); *Salv. Cat. Strickl. Coll.* p. 399, no. 1952 (1882).

Picus albifrons (*non Swains.*), *Sundev. Consp. Av. Picin.* p. 52 (1866).

Centurus aurifrons dubius, *Ridgw. Proc. U.S. Nat. Mus.* iv. p. 108 (1881).

Centurus dubius, *Boucard, P. Z. S.* 1883, p. 452; *Salv. Ibis*, 1885, pp. 186 & 192, 1889, p. 369.

Centurus leei *, *Ridgw. Proc. Biol. Soc. Wash.* iii. p. 22 (1885).

Centurus dubius leei, *Ridgw. Proc. U.S. Nat. Mus.* 1885, p. 575.

Melanerpes dubius, *Ridgw. Man. N. Amer. B.* p. 293 (1887).

Melanerpes leei, *Rigw. Man. N. Amer. B.* p. 293 (1887).

Adult male. Back and scapulars black, very narrowly barred with greyish white; rump and upper tail-coverts white, occasionally barred with black; wings and their coverts black, the latter, likewise the innermost secondaries, very narrowly barred with white, the remaining secondaries with small transverse spots of white on both webs, the primaries more or less spotted at the base of the inner webs, some of the outer webs irregularly spotted at the extreme base; shafts black; tail and the shafts black; nasal plumes, base of the forehead, middle of the crown, occiput, and nape crimson; hind neck like the back; frontal band pale drab or buffy white, the supercilium, face and neck, and the under surface of the body darker drab, paler on the chin and throat, more ashy on the hinder part of the supercilium, side of the neck and fore neck, and the underparts slightly fulvescent; lower abdomen and vent crimson, the latter with dusky bars showing through, the thighs barred dusky black and white; under tail-coverts white, with bars and apical V-shaped markings of black; under wing-coverts white, barred with dusky black; axillaries smoky white. Total length 9·5 inches, culmen 1·35, wing 5·1, tail 3·12, tarsus 0·95; toes (without claws)—outer anterior 0·8, outer posterior 0·8, inner anterior 0·6, inner posterior 0·33.

Adult female. Differs from the adult male in wanting the red on the top of the head, the fore part of the crown being creamy drab, darker posteriorly and grading into dusky or smoky grey on the occiput; the red confined to the nape and forming a broad band. Total length 9·3 inches, culmen 1·4, wing 4·9, tail 3·05, tarsus 0·86.

Hab. Yucatan and Cozumel Island, south into Honduras, and ranging into Southern Mexico to Teapa.

a, *b*, *c*. ♂ ad.; *d*–*g*. ♀ ad. sk.	Teapa, Mexico, Jan., Feb., Mar. (*Mrs. H. H. Smith*).	Salvin-Godman Coll.
h, *i*. ♂ ♀ ad. sk.	Northern Yucatan (*G. F. Gaumer*).	Salvin-Godman Coll.
k–*o*. ♂ ad.; *p*–*s*. ♀ ad. sk.	Buctzotz, Yucatan, April (*G. F. Gaumer*).	Salvin-Godman Coll.
t, *u*. ♂ ad.; *v*. ♀ ad. sk.	Temax, Yucatan, May.	Salvin-Godman Coll.
w–*a'*. ♂ ad.; *b'*. ♀ ad. sk.	Peto, Yucatan, April (*G. F. Gaumer*).	Salvin-Godman Coll.
c'. ♂ ad. sk.	Tabi, Yucatan, Feb. (*F. D. G.*).	Salvin-Godman Coll.
d'. ♂ ad. sk.	Cozumel Island, Jan. 1885 (*E. C. J. Devis*).	Salvin-Godman Coll.
e'–*n'*. ♂ ad. et imm.; *o'*–*u'*. ♀ ad. et imm. sk.	Cozumel Island (*G. F. Gaumer*).	Salvin-Godman Coll.
v'. ♂ imm. sk.	Meco Island (*G. F. Gaumer*).	Salvin-Godman Coll.

* I cannot regard this species, from Cozumel, as distinct from *M. dubius*, simply on account of its barred rump and upper tail-coverts, as we have in the same small island a bird identical with the latter species. The occurrence of so many examples of each form is certainly remarkable; but in some of the other species of *Melanerpes* similar variations are found, though rarely.

w', *x'*, *y'*. ♂ ad.; *z'*. ♀ ad. sk.	Cayo, Western District, British Honduras, Feb., Mar., April (*F. Blancaneaux*).	Salvin-Godman Coll.
a'', *b''*. ♂ ad.; *c''*. ♀ ad. sk.	San Felipe, British Honduras, March, April (*F. Blancaneaux*).	Salvin-Godman Coll.
d''. ♂ ad. sk.	Rio Mopan, British Honduras, April (*F. Blancaneaux*).	Salvin-Godman Coll.
e'', *f''*. ♂ ♀ ad. sk.	Belize, British Honduras (*Blancaneaux*).	Salvin-Godman Coll.
g''. ♀ ad. st.	Honduras.	Mr. Dyson [C.].
h''. ♂ ad. sk.	Honduras.	Mr. Dyson [C.].

22. **Melanerpes canescens.**

Centurus canescens, *Salv. Ibis*, 1889, p. 370.

Adult male. Resembles *M. dubius*, but differs in having from two to three bars of white at the base of the outer webs of the primaries; the white bars on the back and wings rather broader, and the longest upper tail-coverts slightly tipped with red. Total length 9·5 inches, culmen 1·42, wing 5·1, tail 3·15, tarsus 0·9; toes (without claws)—outer anterior 0·77, outer posterior 0·8, inner anterior 0·6, inner posterior 0·37.

Adult female. Differs from the adult male in having the forehead and crown creamy white, the occiput slightly smoky, the nuchal band (only) red. Total length 9·2 inches, culmen 1·22, wing 5·03, tail 3·2, tarsus 0·85.

There is more white on the crown of the female than in *M. dubius*, and in both sexes of the present species the face is (generally) conspicuously whiter.

Hab. Confined to the Island of Ruatan, Bay of Honduras.

a, *b*. ♂ ♀ ad. sk.	Ruatan Island, Bay of Honduras (*G. F. Gaumer*).	Salvin-Godman Coll. (Types of the species.)
c–k. ♂ ad.; *l–x*. ♀ ad. et imm. sk.	Ruatan Island (*G. F. Gaumer*).	Salvin-Godman Coll.

23. **Melanerpes tricolor.**

Picus tricolor (*non Gm.*), *Wagl. Isis*, 1829, p. 512, ♂ ad.; *Sundev. Consp. Av. Picin.* p. 54 (1866).

Centurus subelegans, *Bp. Consp. Gen. Av.* i. p. 119 (1850); *id. Notes Orn. Coll. Rapp. Delatt.* p. 85 (1854); *Reichenb. Scans. Picinæ*, p. 411, no. 966, pl. dclxv. figs. 4415–16 (1854); *Sclat. P. Z. S.* 1855, pp. 34, 162; *id. op. cit.* 1856, p. 143.

Centurus tricolor, *Licht. Nomencl. Av.* p. 76 (1854); *Cab. J. f. O.* 1862, p. 327; *Sclat. Cat. Amer. B.* p. 343, no. 2049 (1862); *id. & Salv. P. Z. S.* 1864, p. 367; *Salv. op. cit.* 1867, p. 157; *id. & Sclat. op. cit.* 1868, p. 169; *Gray, List Picid. Brit. Mus.* p. 100 (1868); *id. Hand-l. B.* ii. p. 197, no. 8761 (1870); *Salv. P. Z. S.* 1870, p. 213; *Wyatt, Ibis*, 1871, pp. 115, 381; *Scl. & Salv. Nomencl. Av.*

Neotr. p. 100 (1873) ; *Salv. & Godm. Ibis*, 1879, p. 205 ; *iid. op. cit.* 1880, p. 174 ; *Ridgw. Proc. U.S. Nat. Mus.* 1881, p. 101.

Centurus rubriventris (*non Swains.*), *Lawr. Ann. Lyc. N. York*, 1861, p. 299.

Zebrapicus tricolor (pt.), *Malh. Picidæ*, ii. p. 247, pl. cvi. figs. 1, 2, ♂ ♀ ad. (1862).

Centurus carolinus, var. tricolor, *B., B., & R. Hist. N. Amer. B.* ii. p. 554 (1874).

Adult male. Small in size. Back, scapulars, and wing-coverts black, barred with white; rump and upper tail-coverts uniform white; quills black, spotted with white upon both webs, except on the apical half or more of the primaries; shafts brownish black; tail black, the central pair of feathers barred on the inner web and spotted on the basal portion of the outer web with white, the outer large feather spotted on the margin of the outer web and the tip of the inner web; shafts black; forehead drabby white, the base and the nasal plumes tinged with yellow; the centre of the crown crimson, the occiput fulvescent brown washed with red, and the nape red; hind neck like the back; outer edge of crown, face, neck, and under surface of the body pale drab, more or less fulvescent, the chin whiter and the malar region slightly yellow, the abdomen orange-red, the thighs and the under tail-coverts having V-shaped markings of black; under wing-coverts white, with a few dusky bars, the axillaries dingy fulvescent white. Total length 6·8 inches, culmen 1, wing 4·2, tail 2, tarsus 0·73; toes (without claws)—outer anterior 0·65, outer posterior 0·65, inner anterior 0·45, inner posterior 0·3.

Adult female. Differs from the adult male in wanting the crimson crown, the sinciput being pale buffy brown grading into ashy brown on the hinder crown and occiput, the latter having a yellow tinge; the nuchal feathers red as in the male. Total length 6·5 inches, culmen 0·85, wing 4·05, tail 1·85, tarsus 0·7.

Bogotá specimens are very pale in colour and strongly fulvescent below.

Hab. U.S. Colombia and east into Venezuela, being replaced in the Orinoco district by *M. terricolor*.

a. Juv. sk.	Central America.	Gould Coll.
b. Juv. sk.	Central America.	Tweeddale Coll.
c, d. ♂ ♀ ad. sk.	Veragua (*E. Arcé*).	Sclater Coll.
e, f. ♂ ♀ ad. sk.	Veragua (*E. Arcé*).	Salvin-Godman Coll.
g, h. ♂ ♀ imm.; *i.* ♀ ad. sk.	Panama.	Tweeddale Coll.
k, l. ♂ ♀ ad. sk.	Panama (*J. McLeannan*).	Sclater Coll.
m, n. ♂ ♀ ad. sk.	Panama (*J. McLeannan*).	Salvin-Godman Coll.
o, p. ♂ ad. sk.	Panama.	G. Barclay, Esq. [P.].
q. ♀ ad. sk.	Paraiso Station, Panama (*A. Hughes*).	Salvin-Godman Coll.
r, s. ♂ ad.; *t.* ♀ juv. sk.	New Granada.	Salvin-Godman Coll.
u, v. ♂ ♀ ad. sk.	New Granada.	Purchased.
w, x. ♂ ♀ ad. sk.	Bogota.	Sclater Coll.

y–b'. ♂ ad. et imm.; *c'*, *d'*. ♀ ad. et imm. sk.	Bogotá.	Tweeddale Coll.
e', *f'*. ♂ ♀ ad. sk.	Valle Dupar, Santa Marta, Colombia (*F. Simons*).	Salvin-Godman Coll.
g'. ♂ imm.; *h'*. ♀ ad. sk.	Venezuela.	Purchased.
i', *k'*. ♂ ♀ ad. sk.	Venezuela.	Tweeddale Coll.
l'. ♂ ad. sk.	Venezuela (*Berlepsch*).	Sclater Coll.
m'. ♂ ad. sk.	Cayenne.	Purchased.
n'. ♂ ad. sk.	Cayenne.	Purchased.
o'. Skeleton.	S. America.	

Subsp. *a*. **Melanerpes terricolor.**

Zebrapicus tricolor (pt.), *Malh. Picidæ*, ii. p. 247 (1862).
Centurus terricolor, *Berlepsch*, *Ibis*, 1880, p. 113; *Ridgw. Proc. U. S. Nat. Mus.* 1881, p. 104.
Centurus tricolor (*non Wagl.*), *Salv. Cat. Strickl. Coll.* p. 400, no. 1954 (1882).

Adult male. Resembles *M. tricolor*, but differs in being larger, and darker in colour on the head, neck, and underparts, and in having the rump and the upper tail-coverts more or less barred with black; the under tail-coverts, vent, and thighs also distinctly barred with black; the red on the abdomen darker and not tinged with yellow. Total length 7·3 inches, culmen 1·1, wing 4·25, tail 2·2, tarsus 0·8; toes (without claws)—outer anterior 0·7, outer posterior 0·7, inner anterior 0·52, inner posterior 0·3.

Adult female. Differs from the adult male in having the crown and occiput dark smoky grey or brown, paler anteriorly, the nape dull orange-red. Total length 6·7 inches, culmen 0 95, wing 4·03, tail 2, tarsus 0·73.

Hab. The Orinoco district, also the islands of Trinidad and Tobago *.

a. ♂ ad. sk.	Venezuela.	Sclater Coll.
b. ♂ ad. sk.	Tobago.	Sir W. Jardine [P.].

24. **Melanerpes rubriventris.**

Picus aurifrons (*non Wagl.*), *Bp. P. Z. S.* 1837, p. 116; *id. Consp. Gen. Av.* i. p. 119 (1850).
Centurus rubriventris, *Swains. An. in Menag.* p. 354, no. 214 (1838); *Gray, Gen. B.* ii. p. 442 (1846); *Bp. Consp. Volucr. Zygod.* p. 11, no. 222 (1854); *Gray, List Picid. Brit. Mus.* p. 100 (1868); *Lawr. Ann. Lyc. N. Y.* ix. p. 206 (1869); *Gray, Hand-l. B.* ii. p. 197, no. 8762 (1870); *Ridgw. Proc. U. S. Nat. Mus.* 1881, p. 102; *Lawr. Ann. Acad. Sc. N. Y.* iii. p. 247, ♀ descr. (1882); *Boucard, P. Z. S.* 1883, p. 452; *Salv. Ibis*, 1885, pp. 186, 192, 1889, p. 369.
Zebrapicus rubriventris, *Malh. Picidæ*, ii. p. 248, pl. cvii. fig. 1, ♂ ad. (1862).
Centurus tricolor (pt.), *Cab. J. f. O.* 1862, p. 327.

* Specimens from Trinidad and Tobago have the bars on the rump and upper tail-coverts less developed than those from Venezuela.

Picus tricolor (pt.), *Sundev. Consp. Av. Picin.* p. 54 (1866).
Centurus rubriventris pygmæus, *Ridgw. Proc. U. S. Nat. Mus.* 1885, p. 576.
Melanerpes rubriventris, *Ridgw. Man. N. Amer. B.* p. 293 (1887).
Melanerpes pygmæus, *Ridgw. Man. N. Amer. B.* p. 293 (1887).

Adult male. Resembles *M. tricolor*, but may be distinguished by having the nasal plumes, base of the forehead, lores, anterior half of malar region, and the chin brilliant golden yellow; the upper part of the forehead, the face and neck, and the underparts (generally) paler; the barring on the upper parts much narrower, the light bars being greyer. Total length 7·7 inches, culmen 0·9, wing 4·2, tail 2·6, tarsus 0·75; toes (without claws)—outer anterior 0·62, outer posterior 0·62, inner anterior 0·46, inner posterior 0·28.

Young males. Resemble the adult of the same sex, but have only a just perceptible tinge of yellow on the forehead and none on the chin or malar region; middle of crown red, and separated from the paler red nape by the smoky-grey occiput; or with the crown, occiput, and nape entirely red, but less brilliant than in the adult; the abdomen of a bright brick-red colour.

Adult female. Has no red on the crown, this being entirely smoky white, darker posteriorly, the occipital feathers tipped with scarlet, but this colour not spreading on to the nape. Total length 7·5 inches, culmen 0·85, wing 4·15, tail 2·5, tarsus 0·73.

Examples of this species from the islands of Cozumel and Bonacca are somewhat darker than typical birds, and those from the latter island have the black barring above broader and the bill more powerful than Cozumel specimens.

Hab. Yucatan, also the islands of Cozumel and Bonacca.

a, b. ♂ ♀ ad. sk.	Yucatan (*G. F. Gaumer*).	Salvin-Godman Coll.
c. ♂ ad. sk.	Merida, Yucatan, May (*G. F. Gaumer*).	Sclater Coll.
d, e, f. ♂ ad.; *g,* ♀ ad. sk.	Peto, Yucatan, April (*G. F. Gaumer*).	Salvin-Godman Coll.
h. ♀ ad. sk.	Cozumel Island (*E. C. J. Devis*).	Salvin-Godman Coll.
i–p. ♂ ad. et imm.; *q–v.* ♀ ad. et imm. sk.	Cozumel Island (*G. F. Gaumer*).	Salvin-Godman Coll.
w, x. ♂ ad.; *y, z.* ♂ juv. sk.	Bonacca Island, Bay of Honduras, Sept. 1887 (*G. F. Gaumer*).	Salvin-Godman Coll.

25. Melanerpes aurifrons.

Picus aurifrons, *Wagl. Isis*, 1829, p. 512, ♂ ad.; *Sundev. Consp. Av. Picin.* p. 53 (1866).
Centurus flaviventris (*non Vieill.*), *Swains. An. in Menag.* p. 354, ♂ ad. (1837); *Gray, Gen. B.* ii. p. 442 (1846); *Sclat. P. Z. S.* 1857, p. 8; *Baird, B. N. Amer.* 1858, p. 110; *id. Cat. Am. B.* 1859, no. 92; *id. B. N. Amer. ed.* 1860, p. 110, pl. xlii. figs. 1 ♂, 2 ♀; *Dresser, Ibis*, 1865, p. 469.
Centurus subelegans, *Bp. P. Z. S.* 1837, p. 109, ♂ ad.; *Gray, Gen. B.* ii. p. 442 (1846); *Bp. Consp. Volucr. Zygod.* p. 11, no. 220, non syn. (1854); *id. Notes Orn. Coll. Rupp. Delatt.* p. 85 (1854).

Picus ornatus, *Less. Rev. et Mag. Zool.* 1839, p. 102, ♂ ad.; *Wagn. Arch. für Naturg.* 1841, p. 100.

Centurus elegans (*non Swains.*), *Lawr. Ann. Lyc. N. Y.* v. p. 116 (1851).

Centurus santa-cruzi (*non Bp.*), *Lawr. Ann. Lyc. N. Y.* v. p. 123 (1851).

Centurus aurifrons, *Licht. Nomencl. Av.* p. 76 (1854); *Sclat. Cat. Amer. B.* p. 343, no. 2047 (1862); *Cab. J. f. O.* 1862, p. 323; *Gray, List Picid. Brit. Mus.* p. 103 (1868); *id. Hand-l. B.* ii. p. 198, no. 8770 (1870); *Cooper, B. Cal. ed. Baird*, i. p. 399 (1870); *Coues, Key N. Amer. B.* p. 196 (1872); *id. Check-list*, 1873, no. 307; *Sclat. & Salv. Nomencl. Av. Neotr.* p. 100 (1873); *B., B., & R. Hist. N. Amer. B.* ii. p. 557, pl. lii. figs. 3 ♂, 4 ♀ (1874); *Sennett, Bull. U. S. Geol. Surv.* iv. no. 1, p. 39 (1878); *Merrill, Proc. U. S. Nat. Mus.* i. p. 151 (1878); *Sennett, Bull. U. S. Geol. Surv.* v. p. 416 (1879); *Ridgw. Proc. U. S. Nat. Mus.* iii. p. 189, no. 373, & p. 233 (1880); *id. op. cit.* iv. p. 104 (1881); *Coues, Check-list*, 1882, no. 451; *id. Key N. Am. B.* 1884, p. 488.

Centurus ornatus, *Reichenb. Scans. Picinæ*, p. 410, no. 963, pl. dclxiv. figs. 4409–10, ♀ ♂ (1854).

Zebrapicus aurifrons, *Malh. Picidæ*, ii. p. 240, pl. civ. figs. 1–3, ♂ ♀ ad., ♂ juv. (1862).

Melanerpes aurifrons, *Ridgw. Proc. U. S. Nat. Mus.* viii. p. 355 (1885); *A. O. U. Check-list N. Amer. B.* p. 217, no. 410 (1886); *Ridgw. Man. N. Amer. B.*. p. 294 (1887); *Lloyd, Auk*, 1887, p. 191; *Hasbrouck, op. cit.* 1889, p. 238.

Adult male. Back, scapulars, and wing-coverts equally barred black and white; rump and upper tail-coverts white; quills black, the primaries having conspicuous spots or patches of white on the basal portion, the secondaries spotted with white on the margin of both webs, the innermost of all being barred right across, the tips of the quills white, and the shafts black; tail black, the outer large feather spotted with white on the margin of the outer web and the tip of the inner web, the next inner feather tipped with white; shafts black; nasal plumes varied yellow and dusky; base of the forehead golden yellow, the crown and occiput slaty grey, grading into ashy white on the upper part of the forehead, and the crown centred by a large crimson patch; nuchal band golden yellow or orange, sometimes nearly red; face, neck, and the whole of the under surface of the body ashy drab, the chin and throat whiter, the abdomen golden yellow; thighs, vent, and under tail-coverts white, tinged with yellow, varied with black, the thighs and under tail-coverts being barred as well as striped, and the vent striped; under wing-coverts white varied with black; axillaries uniform smoky white. Total length 9 inches, culmen 1·5, wing 5·3, tail 3·22, tarsus 1; toes (without claws)—outer anterior 0·7, outer posterior 0·7, inner anterior 0·55, inner posterior 0·35.

Fledgling, male. Differs from the adult male in having the red feathers of the crown dingy crimson and their bases blackish, the remaining portion of the top of the head dusky with narrow blackish striations on the occiput, the nape smoky yellow; the feathers at the base of the forehead slightly yellow and tipped with black; the chest

having a few blackish striations, the sides of the body, flanks, and thighs with almost obsolete dusky stripes.

Adult female. Wants the red on the top of the head, the crown being drab shading into the grey of the occiput. Otherwise resembles the male. Total length 9 inches, culmen 1·35, wing 5, tail 2·85, tarsus 0·9.

Hab. Southern Texas and N.E. States of Mexico, also along the tablelands, south to the city of Mexico and westward into Jalisco.

a–f. ♂ ad.; *g.* ♀ ad. sk.	Hidalgo, Texas, April (*F. B. Armstrong*).	Salvin-Godman Coll.
h–n. ♂ ad.; *o, p, q.* ♀ ad. et imm. sk.	Corpus Christi, Texas, Oct., Nov., Dec. (*F. B. Armstrong*).	Salvin-Godman Coll.
r. ♂ ad. sk.	Laredo, Texas, July (*H. B. Butcher, Hensh. Coll.*).	Salvin-Godman Coll.
s, t. ♂ ♀ ad. sk.	San Antonio, Texas, Feb., Sept. (*H. E. Dresser*).	Salvin-Godman Coll.
u, v. ♂ ♀ ad. sk.	N. Mexico.	Sclater Coll.
w–z. ♂ ad.; *a', b'.* ♀ ad. sk.	Nuevo Leon, Mexico, May (*F. B. Armstrong*).	Salvin-Godman Coll.
c'. ♂ ad.; *d', e', f'.* ♀ ad. sk.	Nuevo Laredo, Mexico, March (*F. B. Armstrong*).	Salvin-Godman Coll.
g', h'. ♂ ad.; *i'.* ♀ ad. sk.	Soto la Marina, Tamaulipas, April (*W. B. Richardson*).	Salvin-Godman Coll.
k', l'. ♂ ♀ ad. sk.	Sierra Madre, above Ciudad Victoria, April (*W. B. Richardson*).	Salvin-Godman Coll.
m'. ♂ ad. sk.	Silao, Mexico.	Salvin-Godman Coll.
n'. ♂ ad. sk.	Morelia, Mexico, Jan. (*F. D. G.*).	Salvin-Godman Coll.
o'. ♀ ad. sk.	City of Mexico.	Salvin-Godman Coll.
p', q'. ♂ ad.; *r', s'.* ♀ ad. sk.	Santana, near Guadalajara, Jalisco, Feb. (*W. Lloyd*).	Salvin-Godman Coll.
t'. ♂ ad. sk.	Mexico.	Purchased.

Subsp. *a.* **Melanerpes santacruzi.**

Centurus santa-cruzi, *Bp. P. Z. S.* 1837, p. 116, ♂ ad.; *Gray, Gen. B.* ii. p. 442 (1846); *Bp. Consp. Gen. Av.* i. p. 119 (1850); *id. Consp. Volucr. Zygod.* p. 11, no. 221, non syn. (1854); *Sclat. P. Z. S.* 1856, p. 307; *id. op. cit.* 1858, p. 359; *id. op. cit.* 1859, p. 367; *id. & Salv. Ibis*, 1859, p. 136 (pt.); *Moore, P. Z. S.* 1859, p. 60; *Cav.-Taylor, Ibis*, 1860, p. 119; *Owen, op. cit.* 1861, p. 67; *Sclat. Cat. Amer. B.* p. 343, no. 2048 (1862); *id. P. Z. S.* 1864, p. 177; *Gray, List Picid. Brit. Mus.* p. 102 (1868); *id. Hand-l. B.* ii. p. 198, no. 8769 (1870); *Sclat. & Salv. P. Z. S.* 1870, p. 837.

Picus grateloupensis, *Less. Rev. Zool.* 1839, p. 41, ♂ ad.; *Wagn. Arch. für Naturg.* 1841, p. 100.

Picus chrysogenys, *Vig. Zool. Beech. Voy.* p. 24 (1839); *Weigm.* (*ex Vig.*), *Arch. für Naturg.* 1841, p. 99.

Picus subelegans (*non Bp. P. Z. S.* 1837), *Less. Descr. d'Ois. réc. découv.* p. 206, no. 34, ♂ (1847).

Centurus erythrophthalmus, *Reichenb. Handb. Scans. Picinæ*, p. 409, no. 962, pl. dclxiv. figs. 4407–08, ♂ (1854).

Centurus grateloupensis, *Bp. Consp. Volucr. Zygod.* p. 11, non syn. (1854).

Centurus flaviventris, *Scl. P. Z. S.* 1860, p. 252.

Centurus polygrammus, *Cab. J. f. O.* 1862, p. 326; *Gray, List Picid. Brit. Mus.* p. 103 (1868); *id. Hand-l. B.* ii. p. 198, no. 8773 (1870); *Cab. J. f. O.* 1872, p. 157.
Zebrapicus santa-cruzi, *Malh. Picidæ*, ii. p. 241, pl. cv. figs. 4, 5, ♂ ♀ ad. (1862).
Centurus albifrons (*non Swains.*), *Cab. J. f. O.* 1862, p. 324; *Sclat. & Salv. P. Z. S.* 1869, p. 364; *iid. Nomencl. Av. Neotr.* p. 100 (1873).
Picus polygrammus, *Sundev. Consp. Av. Picin.* p. 53 (1866).
Picus albifrons (pt.), *Sundev. Consp. Av. Picin.* p. 53 (1866).
Centurus aurifrons (*non Wagl.*), *Lawr. Bull. U. S. Nat. Mus.* 1875, p. 35.
Centurus aurifrons santa-cruzi, *Ridgw. Proc. U. S. Nat. Mus.* 1881, p. 106.
Melanerpes santa-cruzi, *Ridgw. Man. N. Amer. B.* p. 294 (1887).

Adult male. Differs from *M. aurifrons* in having both the black and the white bars on the upper parts narrower, and the latter with a fulvescent tinge; the white bars on the wing-coverts and the innermost secondaries also narrower; the central pair of tail-feathers spotted with white on the inner web, the outer web being striped with white at the base; the base of the forehead orange or reddish; the entire crown and the occiput red; the frontal band and the face buffy drab, the latter (posteriorly) and the side of the neck darker and greyer; the whole of the underparts brownish drab, with a fulvescent tinge below the chest; the thighs, vent, and under tail-coverts fulvescent white entirely barred with dusky black, the bars on the vent showing through the golden colour; under wing-coverts clearly barred with black. Total length 8·8 inches, culmen 1·3, wing 5·1, tail 3·05, tarsus 0·93; toes (without claws)—outer anterior 0·75, outer posterior 0·75, inner anterior 0·53, inner posterior 0·38.

Adult female. Has the greater part of the crown creamy white, shading into greyish brown on the hinder part and on the occiput, the nape (alone) being red. Total length 8·5 inches, culmen 1·15, wing 5·05, tail 2·7, tarsus 0·88.

Young. Resemble the adult of their respective sexes, but differ in having the forehead less white, and more of a smoky drab or grey and with no red at its base; the red on the top of the head and on the nape of the male, and on the nape of the female, duller; there is less white on the wing-coverts, and this partakes more of the character of spots than of bars.

In Honduras this species assumes the uniform central tail-feathers, and in this respect resembles *M. aurifrons*. The dimensions of the former are, however, considerably less, and the white barring above and on the wings is extremely narrow.

Hab. San Salvador; Honduras; Guatemala; also Southern and Eastern Mexico, as far north as Tampico.

a. ♀ ad. sk. [La Paz, Lower California.]* Salvin-Godman Coll. Winter (*Hensh. Coll.*).

* This locality has been queried upon the label.

b. ♂ ad. st.	Mexico.	J. Gould, Esq.
c, d. ♂ ad.; *e, f.* ♀ ad. sk.	Mexico.	Tweeddale Coll.
g. ♂ ad. sk.	Mexico.	Sclater Coll.
h–m. ♂ ad.; *n–q.* ♀ ad. sk.	Tampico, Mexico, Feo. (*W. B. Richardson*).	Salvin-Godman Coll.
r. ♂ ad. sk.	San Juan del Rio, Mexico (*Rébouch*).	Sclater Coll.
s. ♂ ad. sk.	Vera Cruz, Jan. (*W. B. Richardson*).	Salvin-Godman Coll.
t. ♀ ad. sk.	Vera Cruz, Mexico (*Boucard*).	Tweeddale Coll.
u. ♂ ad.; *v.* ♀ imm. sk.	Atoyac, Mexico, May (*Mrs. H. H. Smith*).	Salvin-Godman Coll.
w, x. ♂ ad. sk.	Misautla, Mexico, March (*F. D. G.*).	Salvin-Godman Coll.
y. ♀ ad. sk.	Jomotla, Mex. (*Trujillo*).	Salvin-Godman Coll.
z. ♂ ad. sk.	Tortugas, Jalapa, Oct.	Commis. Geogr. Explor. Mex. [S.-G.].
a'. ♀ ad. sk.	Santa Ana R., Jalapa, Oct.	
b'. ♂ imm. sk.	Plan del Rio, Jalapa, Aug.	
c'. ♀ juv. sk.	Huatusco, Vera Cruz, July.	
d', e', f'. ♂ ad.; *g'.* ♀ ad. sk.	Cuichapa, Cordova, Vera Cruz, Jan.	
h'. ♂ juv.	Coatepec, Vera Cruz, July.	
i', k', l'. ♂ ad. sk.	Tonala, March, Nov., Dec. (*F. Sumichrast*).	Salvin-Godman Coll.
m'. Ad. sk.	Guatemala.	Gould Coll.
n', o'. ♂ ♀ ad. sk.	Guatemala.	Sclater Coll.
p', q'. ♂ ♀ ad. sk.	Dueñas, Guatemala (*O. S.*).	Salvin-Godman Coll.
r'. ♂ ad. sk.	Dueñas (*O. S.*).	Tweeddale Coll.
s'. ♀ ad. sk.	Retalhuleu, Guatemala (*O. S.*).	Salvin-Godman Coll.
t'. ♀ ad. sk.	Baoul, Guatemala, Nov. (*O. S.*).	Salvin-Godman Coll.
u'. ♀ ad. sk.	Julian, Honduras (*G. M. Whitely*).	Salvin-Godman Coll.
v'. ♂ ad. sk.	San Pedro, Honduras (*G. M. Whitely*).	Salvin-Godman Coll.
w'. ♂ ad. sk.	San Pedro (*G. M. Whitely*).	Tweeddale Coll.

26. Melanerpes hoffmanni.

Centurus hoffmanni, *Cab. J. f. O.* 1862, p. 322; *Gray, List Picid. Brit. Mus.* p. 100 (1868); *Lawr. Ann. Lyc. N. Y.* ix. p. 131 (1868); *Gray, Hand-l. B.* ii. p. 197, no. 8760 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 100 (1873); *Boucard, P. Z. S.* 1878, p. 49; *Zeled. Cat. Av. Costa Rica*, p. 23 (1882).

Picus hoffmanni, *Sundev. Consp. Av. Picin.* p. 54 (1866).

Centurus aurifrons, var. hoffmanni, *B., B., & R. Hist. N. Amer. B.* ii. p. 554 (1874).

Centurus aurifrons hoffmannii, *Ridgw. Proc. U. S. Nat. Mus.* 1881, p. 110; *Nutting, op. cit.* 1882, p. 399; *Ridgw. t. c.* p. 501; *Nutting, op. cit.* 1883, pp. 375, 387, 394.

Adult male. Differs from *M. aurifrons* in being smaller; the nasal plumes and base of forehead only tinged with yellow; the crimson covering more of the crown, which has an olive tinge, and the red

of the crown not distinctly separated from the yellow or orange nuchal band, the occipital feathers being more or less tipped with golden yellow; the central pair of tail-feathers having their basal portion white barred with black; the face, neck, and the whole of the underparts very much darker and more of a brownish drab with a fulvescent tinge below the chest. Total length 8 inches, culmen 1·15, wing 5·05, tail 2·35, tarsus 0·8; toes (without claws)—outer anterior 0·6, outer posterior 0·67, inner anterior 0·45, inner posterior 0·3.

Adult female. Differs from the adult male in wanting the red on the head, the crown, as well as the occiput, being smoky grey: "iris hazel" (*O. Salvin*). Total length 7·3 inches, culmen 0·95, wing 4·6, tail 2·18, tarsus 0·8.

Hab. Nicaragua and Costa Rica.

a, b. ♂ ad. sk.	Costa Rica.	Tweeddale Coll.
c. ♂ ad. sk.	San José, Costa Rica, May (*M. L. Calleja*).	Salvin-Godman Coll.
d. ♀ ad. sk.	San José, Costa Rica (*J. Carmiol*).	Salvin-Godman Coll.
e, f. ♂ ♀ ad. sk.	Punta Arenas, Costa Rica, March (*O. S.*).	Salvin-Godman Coll.
g. ♂ ad.; *h.* ♀ juv. sk.	Costa Rica (*J. Carmiol*).	Sclater Coll.

27. Melanerpes uropygialis.

Centurus hypopolius (*non Wagl.*), *Pucher. Rev. et Mag. Zool.* 1853, p. 163.

Centurus uropygialis, *Baird, Proc. Philad. Acad.* vii. p. 120 (1854); *Reichenb. Scans. Picinæ*, p. 430, no. 964 *b* (1854); *Lawr. Mem. Bost. Soc. Nat. Hist.* ii. p. 294 (1855); *Sclat. P. Z. S.* 1857, p. 8; *Baird, Cass., & Lawr. B. N. Amer.* p. 111 (1858); *Kennerley, Pacif. R. R. Rep. Expl. & Surv.* x *b*, 1859, pl. xxxvi.; *Heerm. id.* x *c*, p. 17 (1859); *Baird, Cat. N. Amer. B.* 1859, p. 93; *Cab. J. f. O.* 1862, p. 330; *Coues, Ibis*, 1865, p. 538; *id. Proc. Philad. Acad.* 1866, p. 54; *Cooper, B. Calif. ed. Baird*, i. p. 399 (1870); *Coues, Key N. Amer. B.* p. 196 (1872); *id. Check-list*, no. 308 (1873); *B., B., & R. Hist. N. Amer. B.* ii. p. 558, pl. lii. figs. 2 ♂, 5 ♀ (1874); *Ridgw. Proc. U. S. Nat. Mus.* iii. pp. 189, 233 (1880); *id. op. cit.* ix. p. 112 (1881); *Coues, Check-list*, 1882, no. 452; *Belding, Proc. U. S. Nat. Mus.* v. p. 543 (1882); *id. op. cit.* vi. pp. 344, 345 (1883); *Coues, Key N. Amer. B.* 1884, p. 488.

Centurus sulfuriventer, *Reichenb. Scans. Picinæ*, p. 410, no. 964, pl. dclxiv. figs. 4411–12, ♀ ♂ (1854).

Zebrapicus kaupii, *Malh. Picidæ*, ii. p. 245, pl. cvi. figs. 4, 5, ♂ ♀ (1862).

Picus uropygialis, *Sundev. Consp. Av. Picin.* p. 54 (1866).

Centurus kaupii, *Gray, List Picid. Brit. Mus.* p. 100 (1868); *id. Hand-l. B.* ii. p. 197, no. 8759 (1870).

Melanerpes uropygialis, *Ridgw. Proc. U. S. Nat. Mus.* viii. p. 355 (1885); *A. O. U. Check-list N. Amer. B.* 1886, p. 217, no. 411; *Scott, Auk*, 1886, p. 428; *Ridgw. Man. N. Amer. B.* p. 294 (1887).

Adult male. Back and scapulars almost equally barred black and buffy white; rump and upper tail-coverts white, or the latter slightly buffy, narrowly barred with black; wings and their coverts black, the latter, as well as the innermost secondaries, barred with white, the remaining secondaries spotted on both webs, the primaries having large spots and patches of white on the basal half, and partially margined with white on the outer webs; tips of the quills white, and the shafts black; tail black, the central pair of feathers having the inner web white barred with black, the outer web with a longitudinal stripe of white, the two outer large feathers barred with white on the apical half or more; shafts black; nasal plumes, head and neck, and the under surface of the body drab, darker on the back of the head and hind neck, and with a just perceptible tinge of yellow on the nape, with a quadrate patch of crimson on the crown, and the abdomen golden yellow; thighs and under tail-coverts buffy white, with bars and sagittate markings of black; under wing-coverts white, barred with black; axillaries pale smoky drab. Total length 9 inches, culmen 1·5, wing 5·2, tail 3·3, tarsus 0·9; toes (without claws)—outer anterior 0·68, outer posterior 0·7, inner anterior 0·6, inner posterior 0·35.

Adult female. Differs from the adult male in the absence of the red patch on the crown. Total length 8·5 inches, culmen 1·25, wing 4·9, tail 3·2, tarsus 0·85.

Immature. Resemble the adult of their respective sexes, but have the head and neck paler in colour, the male having a few of the feathers in the middle of the crown tipped with orange-red.

Hab. South-eastern California and Lower California to Cape St. Lucas; Southern Arizona and Western Mexico, south to the State of Aguas Calientes.

a. ♀ ad. sk.	San Pedro, Arizona, Oct. (*Henshaw*).	Salvin-Godman Coll.
b, c, d. ♂ ad.; *e, f.* ♀ ad. sk.	Tucson, Arizona, Dec., Feb. (*Henshaw*).	Salvin-Godman Coll.
g. ♂ ad.; *h.* ♂ juv. sk.	Camp Lowel, Arizona, Aug., Sept. (*Dr. Rothrock*).	Salvin-Godman Coll.
i, k. ♂ ad. sk.	Lowel, Arizona, April (*E. W. Nelson*).	Salvin-Godman Coll.
l, m. ♂ ♀ ad. sk.	Gila Co., Arizona, Nov. (*Henshaw*).	Salvin-Godman Coll.
n, o. ♂ ♀ ad. sk.	Yuma, Arizona, May (*F. Stephens*).	G. Frean Morcom, Esq. [P.]
p. ♂ ad. sk.	La Paz, Lower California, winter (*Henshaw*).	Salvin-Godman Coll.
q, r. ♂ ♀ ad. sk.	La Paz.	Sclater Coll.
s, t. ♂ ♀ ad. sk.	La Paz, March, Nov. (*A. Forrer*).	Salvin-Godman Coll.
u, v. ♂ ad.; *w.* ♀ ad. sk.	San José del Cabo, Lower California, Nov. (*M. Abott Frazar*).	Salvin-Godman Coll.
x. ♂ imm. sk.	Cape San Lucas, Lower California (*J. Xantus*).	Salvin-Godman Coll.

y. ♀ ad. sk.	Cape San Lucas (*J. Xantus*).	Salvin-Godman Coll.
z. ♂ ad. st.	Mexico.	Purchased.
a'. ♀ ad. sk.	Mexico.	Purchased.
b'. ♂ ad.; *c'*. ♀ imm. sk.	Mexico.	Gould Coll.
d'. ♂ ad. sk.	Mexico.	Capt. Kellett & Lieut. Wood [P.].
e'–h'. ♂ ad. et imm.; *i'*, *k'*. ♀ ad. et imm. sk.	Sonora, Mexico, April (*W. Lloyd*).	Salvin-Godman Coll.
l'. ♀ ad. sk.	Ysleta, Sonora, May (*W. Lloyd*).	Salvin-Godman Coll.
m'. ♀ ad. sk.	Rio Mayo, Sonora, May (*W. Lloyd*).	Salvin-Godman Coll.
n'. ♀ ad. sk.	Moctezuma, Sonora, Aug.	Salvin-Godman Coll.
o'. ♂ imm. sk.	Hermosillo, Sonora, Nov.	Salvin-Godman Coll.
p'. ♂ ad. sk.	Mazatlan, W. Mexico, Dec. (*A. Forrer*).	Salvin-Godman Coll.
q'. ♀ ad. sk.	Presidio, Mexico, Dec. (*A. Forrer*).	Salvin-Godman Coll.
r'. ♀ imm. sk.	San Blas, Tepic, Jalisco, April (*W. B. Richardson*).	Salvin-Godman Coll.
s'. ♂ ad. sk.	Santana, near Guadalajara, Jalisco, Feb. (*W. Lloyd*).	Salvin-Godman Coll.
t'. ♀ imm. sk.	Calvillo, Aguas Calientes, Mexico, Aug. (*W. B. Richardson*).	Salvin-Godman Coll.

28. Melanerpes elegans.

Picus elegans, *Swains. Phil. Mag.* i. p. 439, ♂ ad. (1827); *Sundev. Consp. Av. Picin.* p. 55 (1866); *Finsch, Abh. nat. Ver. Brem.* 1871, p. 356.

Centurus elegans, *Gray, Gen. B.* ii. p. 442 (1846); *Bp. Consp. Gen. Av.* i. p. 119, no. 5 (1850); *id. Consp. Volucr. Zygod.* p. 11, no. 219 (1854); *Reichenb. Scans. Picinæ*, p. 411, no. 965 *b* (1854); *Cab. J. f. O.* 1862, p. 327; *Sclat. Cat. Amer. B.* p. 342 (1862); *Baird, Ibis*, 1863, p. 476; *Sclat. P. Z. S.* 1864, p. 177; *Gray, List Picid. Brit. Mus.* p. 101 (1868); *id. Hand-l. B.* ii. p. 197, no. 8763 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 101 (1873); *Lawr. Mem. Bost. Soc. Nat. Hist.* ii. p. 294 (1874); *Ridgw. Proc. U. S. Nat. Mus.* 1881, p. 114; *Salv. Cat. Strickl. Coll.* p. 399, no. 1953 (1882); *id. P. Z. S.* 1883, p. 425; *Ferrari-Perez, Proc. U. S. Nat. Mus.* 1886, p. 160.

Zebrapicus elegans, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 361; *id. Picidæ*, ii. p. 225, pl. cii. figs. 5, 6, ♂ ♀ (1862).

Melanerpes elegans, *Ridgw. Man. N. Amer. B.* p. 292 (1887).

Adult male. Back and scapulars broadly barred black and white, the rump and upper tail-coverts white, with narrower black barring; wings and their coverts black, the latter, likewise the innermost secondaries, barred with white, the remaining secondaries spotted on both webs, and the primaries having large spots and patches of white on the basal portion, and the apical portion externally margined with greyish white, the tips also being white;

shafts black; tail black, the central pair of feathers and the outer large feather barred with white on both webs, the next inner feather barred on the inner web and spotted on the apical half of the outer web; shafts black; crown and occiput crimson, the nape golden; orbital region and a patch above the posterior part of the eye black; forehead smoky drab, the base and the nasal plumes orange or golden; face, neck, and the under surface of the body dark smoky brown, with a fulvescent tinge below, the malar feathers tipped with dull golden yellow, the lower part of the abdomen and the vent golden, and having dusky spots; the thighs and under tail-coverts dull white, the feathers having yellowish margins and crossed by bars and V-shaped markings of black; under wing-coverts barred black and white. Total length 8·7 inches, culmen 1·2, wing 4·9, tail 3, tarsus 0·9; toes (without claws)—outer anterior 0·7, outer posterior 0·75, inner anterior 0·53, inner posterior 0·33.

Adult female. Differs from the adult male in having the crown smoky grey, lighter and more buffy on the forehead; the black patch above and behind the eye larger and spreading more on to the hind crown, but not uniting with its fellow. Total length 8 inches, culmen 1·12, wing 4·7, tail 3, tarsus 0·85.

Young male. Differs from the adult male in having the red on the head confined to the crown, the occiput being entirely yellow; the forehead, sides of the face and neck, and the whole of the underparts from the chest, inclusive, downwards smoky white (the chin and throat being whiter), the middle of the abdomen slightly yellow, and the faintest possible tinge of this colour on the base of the forehead, malar region, and chest; the forehead, sides of the face and neck, chin, throat, and fore neck irregularly striped with black; the chest, breast, and remaining underparts transversely and irregularly varied with black or dusky black.

Hab. Western and Southern Mexico, from Sonora to the States of Puebla and Guerrero.

a. ♂ ad.; *b*, *c*. ♀ ad. sk.	[La Paz, Lower California]* (*Henshaw*).	Salvin-Godman Coll.
d. ♂ ad. sk.	Mexico.	Purchased.
e. ♂ imm. sk.	Mexico, Nov. 1869.	Tweeddale Coll.
f. ♂ ad.; *g*. ♀ imm. sk.	Mexico.	Sclater Coll.
h. ♀ imm. sk.	S. Mexico (*White*).	Salvin-Godman Coll.
i. ♂ ad.; *k*. ♂ imm.; *l*. ♀ ad. sk.	Mazatlan, Mexico, Aug., Nov., Dec. (*A. Forrer*).	Salvin-Godman Coll.
m. ♂ ad. sk.	Putla, W. Mexico, Sept. (*Rébouch*).	Salvin-Godman Coll.
n–r. ♂ ad.; *s*. ♀ ad. sk.	San Blas, Tepic, April, May (*W. B. Richardson*).	Salvin-Godman Coll.

* This locality is queried upon the label.

t, *u*. ♂ ♀ ad. sk.	Tepic, May (*W. B. Richardson*).	Salvin-Godman Coll.
v, *w*. ♂ ad. sk.	Beltran, Jalisco, April (*W. Lloyd*).	Salvin-Godman Coll.
x. ♂ ad. sk.	Hac. San Marcos, Jalisco 4000 ft. (*W. Lloyd*).	Salvin-Godman Coll.
y. ♂ ad. sk.	Plains of Colima, Jan. (*J. Xantus*).	Salvin-Godman Coll.
z, *a'*. ♂ ad.; *b'*, *c'*. ♀ ad. sk.	Acapulco, State of Guerrero, Sept. (*Mrs. H. H. Smith*).	Salvin-Godman Coll.
d', *e'*. ♂ ♀ ad. sk.	Acapulco, March (*A. H. Markham*).	Salvin-Godman Coll.
f'. ♂ ad. sk.	Dos Arroyos, State of Guerrero, Sept. (*Mrs. H. H. Smith*).	Salvin-Godman Coll.
g', *h'*. ♂ ♀ imm. sk.	Epatlan (Izucar), Puebla, Nov.	Salvin-Godman Coll.

29. Melanerpes hypopolius.

Picus hypopolius, *Wagl. Isis*, 1829, p. 514; *Sundev. Consp. Av. Picin.* p. 55 (1866).

Zebrapicus hypopolius, *Malh. N. Classif., Mém. Acad. Metz*, 1848–9, p. 361; *id. Picidæ*, ii. p. 228, pl. ciii. figs. 4, 5, ♂ ♀ ad. (1862).

Centurus hypopolius, *Bp. Consp. Volucr. Zygod.* p. 11 (1854); *Reichenb. Scans. Picinæ*, p. 410, no. 965, pl. dclxv. figs. 4413–14 (♂ ♀, incorrect) (1854); *Licht. Nomencl. Av.* p. 76 (1854); *Cab. J. f. O.* 1862, p. 329; *Sclat. & Salv. Nomencl. Av. Neotr.* p. 100 (1873); *Sclat. P. Z. S.* 1874, p. 176; *Lawr. Bull. U. S. Nat. Mus.* 1876, p. 35; *Ridgw. Proc. U.S. Nat. Mus.* 1881, p. 113; *Ferrari-Perez, op. cit.* 1886, p. 160.

Melanerpes hypopolius, *Ridgw. Man. N. Amer. B.* p. 292 (1887).

Adult male. Back, rump, and scapulars greyish white, barred with black; upper tail-coverts white, striped with black; wing-coverts and quills black, the former barred with pure white, the primaries white on their basal portion, and the secondaries spotted on both webs with the same, the tips of all the quills margined with white, and the shafts black; tail black, the central pair of feathers white at the base and crossed on the inner web by narrow black bars, the two outer large feathers spotted or margined on the outer web and tip of the inner web with white; shafts black; nasal plumes smoky brown; frontal band buffy white; lores smoky white; the top of the head, face and entire neck, and the whole of the underparts, except the lower part of the abdomen, vent, and thighs, smoky or purplish drab, darker on the top of the head and whiter on the chin, the centre of the crown and a spot below the ear-coverts crimson, and the eye encircled with black; vent, thighs, and under tail-coverts white, the abdomen spotted, the flanks and thighs barred, and the under tail-coverts with stripe-like spots and squamate markings of black; under wing-coverts white, spotted and barred with black; axillaries smoky brown. Total length 8 inches, culmen 0·95, wing 4·95, tail 3·15, tarsus 0·85; toes (without claws) —outer anterior 0·52, outer posterior 0·55, inner anterior 0·42, inner posterior 0·27.

Adult female. Differs from the adult male in wanting the crimson on the crown, this being entirely of the same colour as the hinder part of the head and the neck. Total length 8 inches, culmen 1, wing 4·85, tail 3·2, tarsus 0·85.

Young male. Resembles the adult of the same sex, but differs in having the white on the back and wings very smoky; the under surface of the body more smoky; the vent, thighs, and under tail-coverts very dingy and smoky white, the black markings on these being extremely faint; the red patch on the crown smaller and less crimson, being more of a dull scarlet colour.

Hab. Southern Mexico (Puebla and some of the adjoining states).

a, b. ♀ ad. sk.	Mexico.	Sclater Coll.
c. ♀ ad. sk.	Mexico (*Becker*).	Salvin-Godman Coll.
d. ♂ ad. sk.	Valley of Mexico (*H. S. le Strange*).	Salvin-Godman Coll.
e, f. ♂ ♀ ad. sk.	Chietla (Chiantla) Puebla, Dec.	Salvin-Godman Coll.
g. ♂ juv. sk.	San Bartolo, Puebla, June.	Salvin-Godman Coll.
h. ♂ ad. sk.	Izucar, Puebla, Nov.	Salvin-Godman Coll.
i. ♀ ad. sk.	San Miguel Molino (Huajotzingo), Puebla, Feb.	Salvin-Godman Coll.
k. ♂ ad. sk.	Sierra Madre del Sur, Mexico (*Mrs. H. H. Smith*).	Salvin-Godman Coll.

13. SPHYROPICUS.

Type.

Pilumnus (*non Leach*), *Bp. Consp. Volucr. Zygod.* no. 26 (1854) ..... S. thyroideus.

Sphyrapicus, *Baird, Rep. Expl. & Surv. Mississ. Pacif. Rail. Route*, ix. p. 101 (1858) ..... S. varius.

Cladoscopus, *Cab. & Heine, Mus. Hein.* iv. p. 80 (1863) ..... S. varius.

Chin-angle of *Sphyropicus varius*.

Range. The whole of North America to South Alaska (possibly to Behring Straits) and into Greenland; through Central America to Costa Rica, and in the Island of St. Andrew; also into several of the West-Indian Islands.

Key to the Species.

A. With more or less red in the plumage.
  a'. With red on the head, but none on the neck (except upon the throat) and never any on the chest or breast.
    a''. Nuchal band white, and the two stripes across the face also white, never tinged with red.
      a'''. Chin and throat red..... *varius* ♂ ad., p. 189.
      b'''. Chin and throat white..... *varius* ♀ ad., p. 190.
    b''. Nuchal band red; the feathers comprising the two white stripes across the face generally having some of their tips red.
      c'''. Chin and throat entirely red ..... *nuchalis* ♂ ad., p. 193.
      d'''. Chin and throat white, considerably varied with red ..... *nuchalis* ♀ ad., p. 193.
  b'. Head and neck, chest, and more or less of the breast red.
    c''. Breast entirely washed with red .... *ruber* ♂ ad., p. 194.
    d''. With less red on the breast..... *ruber* ♀ ad., p. 195.
  c'. Head, neck, and chest blue-black, like the back; gular spot red ..... *thyroideus* ♂ ad., p. 196.

B. With no red in the plumage.
  d'. Head, neck, and chest black, like the back; gular spot white ..... *thyroideus* ♂ imm., [p. 197.
  e'. Head, neck, and chest brown, more or less varied with black. [p. 190.
    e''. Wing-coverts black, with a conspicuous white patch ..... *varius* ♂ ♀ nestlings, *nuchalis* ♂ ♀ nestlings, [p. 193.
    f''. Wing-coverts barred like the back, without any white patch.
      e'''. With very large spot or patch of black on the chest..... *thyroideus* ♀ ad., p. 197.
      f'''. Chest entirely barred like the back, without any black central spot.... *thyroideus* juv., p. 197.

1. Sphyropicus varius.

The Yellow belly'd Woodpecker, *Catesby, Nat. Hist. Carol.* i. p. 21, pl. xxi., ♂ ad. (1731).

Pic varié de la Caroline, *Briss. Orn.* iv. p. 62 (1760); *Daubent. Pl. Enl.* 785, ♂ ad.

Picus varius, *Linn. Syst. Nat.* i. p. 176 (1766); *Penn. Arct. Zool.* ii. p. 275 (1785); *Gm. Syst. Nat.* i. p. 438 (1788); *Lath. Ind. Orn.* i. p. 232 (1790); *Barton, N. Hist. Penn.* p. 8 (1799); *Vieill. Ois. Amér. Sept.* ii. p. 63, pls. cxviii. ♂, cxix. juv. (1807); *Wils. Amer. Orn.* i. p. 147, pl. ix. fig. 2, ♂ ad. (1808); *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 80 (1818); *id. & Bonn. Enc. Méth.* iii. p. 1311 (1823); *Bp. Syn. Bds. U. S.* p. 45 (1826); *Swains. Phil. Mag.* 1827, p. 439; *Wagl. Syst. Av.* Picus, sp. 16 (1827); *id. Isis*, 1829, p. 509; *Jard. ed. Wils. Amer. Orn.* i. p. 152, pl. ix. fig. 2, ♂ ad., iii. p. 331, pl. viii. figs. 1 imm., 2 ♀ ad. (1832); *Nutt. Man. Orn.* 1832, p. 574; *Ramon de la Sagra, Hist. Fis. &c. Cuba*, ii. p. 108 (1838); *Bp. Comp. List B. Eur. & N. Amer.* p. 39 (1838); *Aud. Orn. Biogr.*

ii. p. 519 (1834), v. p. 537, pl. cxc. figs. 1 ♂ ad., 2 ♀ ad. (1839); *D'Orb. in. Ram. Sagra's Hist. Phys. Cuba*, p. 141 (1839); *Peab. Bost. Journ. N. H.* 1841, p. 173; *Aud. B. Amer.* iv. p. 263, pl. cclxvii. figs. 1, 2, ♂ ♀ (1842); *De Kay, Nat. Hist. N. Y., Aves*, p. 188, pl. xviii. fig. 38, ♂ (1844); *Gray, Gen. B.* ii. p. 435 (1845); *Gosse, B. Jam.* p. 270 (1847); *Bp. Consp. Gen. Av.* i. p. 138 (1850); *Lembeye, Av. Isl. Cuba*, p. 131 (1850); *Barry, Proc. Bost. Soc. N. H.* 1854, p. 8; *Reichenb. Scans. Picinæ*, p. 376, no. 868, pl. dcxxxix. figs. 4258–60, ♂ ♂ ♀ ad. (1854); *Cab. J. f. O.* 1856, p. 102; *Putn. Proc. Essex Inst.* 1856, p. 214; *Sclat. P. Z. S.* 1856, p. 308, 1858, p. 305; *Maxim. J. f. O.* 1858, p. 417; *Sclat. P. Z. S.* 1859, pp. 367, 388; *Bryant, Proc. Bost. Soc.* 1859, p. 106; *Cav. Tayl. Ibis*, 1860, p. 119; *Newt. t. c.* p. 308; *Reinh. op. cit.* 1861, p. 8; *Sundev. Consp. Av. Picin.* p. 33 (1866); *Gray, List Picid. Brit. Mus.* p. 51 (1868); *id. Hand-l. B.* ii. p. 186, no. 8617 (1870).

Picus atrothorax, *Less. Traité*, i. p. 229 (1831).

Picus (Dendrocopus) varius, *Swains. Faun. Bor.-Amer., Bds.* ii. pp. xxvi introd. & 309 (1831).

Pilumnus varius, *Bp. Consp. Volucr. Zygod.* p. 8, no. 27 (1854).

Sphyrapicus varius, *Baird, B. N. Amer.* p. 103 (1858); *Malh. Picidæ*, i. p. 157, pl. xxxvii. figs. 2–4, ♂ ad., juv., ♀ ad. (1861); *Blakist. Ibis*, 1862, p. 3; *Verrill, Proc. Essex Inst.* 1862, p. 143; *Dress. Ibis*, 1865, p. 468; *Gundl. Repert.* i. p. 294 (1866); *Coues, Proc. Essex Inst.* 1867, p. 262; *Allen, Am. Nat.* 1870, p. 571; *Coues, Bds. N.-West*, p. 285 (1874); *Lawr. Bull. U. S. Nat. Mus.* iv. 1876, p. 35; *Gundl. Orn. Cuba*, p. 273 (1876); *Coues, Bull. U. S. Geol. Surv.* iv. 1878, p. 616; *Mayn. B. Florida*, p. 223, pl. xviii. (1878); *Merriam, Bull. Nutt. Orn. Club*, 1879, p. 1; *Cory, B. Baham. Isl.* p. 121 (1880); *Ridgw. Proc. U. S. Nat. Mus.* 1880, p. 189; *Nehrling, J. f. O.* 1883, p. 95; *Merriam, Auk*, 1884, p. 295; *Drew, op. cit.* 1885, p. 17; *Cory, List Bds. W. Ind.* p. 20 (1885); *A. O. U. Check-list N. Amer. B.* p. 214, no. 402 (1886); *Ferrari-Perez, Proc. U. S. Nat. Mus.* 1886, p. 159; *Brewst. Auk*, 1886, p. 104; *Cory, t. c.* p. 375; *Cory, op. cit.* 1887, p. 181; *Semett, t. c.* p. 242; *Ridgw. Man. N. Amer. B.* p. 288 (1887); *Warren, B. Penn.* p. 129 (1888).

Sphyropicus varius, *Sclat. & Salv. Ibis*, 1859, pp. 136, 236; *Sclat. Cat. Amer. B.* p. 335, no. 1997 (1862); *Elakist. Ibis*, 1863, p. 52; *Sclat. P. Z. S.* 1864, p. 117; *Allen, Proc. Essex Inst.* 1864, p. 53; *Dresser, Ibis*, 1865, p. 468; *McIlwr. Proc. Essex Inst.* 1866, p. 83; *Baird, Ibis*, 1867, pp. 270–288; *Lawr. Ann. Lyc. N. Y.* ix. p. 205 (1869); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 99 (1873); *Ridgw. Ann. Lyc. N. Y.* x. p. 337 (1874); *Coues, Check-list N. Amer. B.* 2nd ed. p. 78, no. 446 (1882); *Cooke & Widm. Ridgw. Orn. Club, Bull.* i. p. 36 (1883); *Coues, Key N. Amer. B.* 2nd ed. p. 486 (1884).

Cladoscopus varius, *Cab. & Heine, Mus. Hein.* iv. p. 80 (1863).

Sphyropicus varius, var. varius, *B., B., & R. Hist. N. Amer. B.* ii. p. 539, pl. li. figs. 1 ♂, 2 ♀ (1874).

Adult male. Back yellowish white, varied with irregular stripes, bar-like spots, and blotches of black; rump white, striped with black, the outer feathers black, with a subapical spot of white; upper tail-coverts white, externally edged with black; scapulars black, barred with white at the tip; wings and their coverts black, the outermost coverts white, this forming a conspicuous stripe

parallel with the edge of the wing; quills tipped and spotted with white on both webs; shafts black; tail black, the inner webs of the central pair of feathers partially white and barred with black, the two outer large feathers on either side externally margined with greyish white; shafts black; forehead and crown, chin, and throat crimson; occiput black; hind neck black, with longitudinal spots of white; face and side of the neck, fore neck and chest (except the sides of the latter) blue-black, with a white stripe from behind the eye, uniting on the nape with the corresponding one, and another white stripe from the base of the upper mandible, passing under the ear-coverts and down the side of the neck; the lores and nasal plumes white; under surface of the body pale sulphur-yellow, the sides, flanks, and thighs smoky brown, with stripes and sagittate markings of black; under tail-coverts yellowish white, a few being striped with black; under wing-coverts yellowish white with dusky V-shaped markings; axillaries smoky white with faint dusky stripes. Total length 8 inches, culmen 1, wing 5, tail 2·9, tarsus 0·8; toes (without claws)—outer anterior 0·5, outer posterior 0·57, inner anterior 0·4, inner posterior 0·25.

Adult female. Differs from the adult male in having the chin and throat white. Total length 7·8 inches, culmen 0·95, wing 4·75, tail 2·7, tarsus 0·72.

The various plumages may be given as follows;—

1*st Plumage—Nestling.* Has no red whatever upon the top of the head or on the chin and throat; the head and neck are dusky brown, spotted with dingy whitish, except the chin and upper throat which are dull white; there is a dull white superciliary stripe and another white stripe under the eye and ear-coverts; there is no black crescentic patch on the chest, the whole of the under surface of the body (except the middle of the breast and the abdomen, which are yellowish white) being smoky brown, with crescent-shaped or bar-like markings of dusky black; the black on the upper parts is less intense.

2*nd Stage.* In autumn the forehead and crown are still dusky brown, with paler brown or brownish-white stripe-like spots, but some of the feathers are tipped with red, and in the males some of the feathers of the chin and throat are also tipped with red; the black feathers appear on the occiput, and an occasional black feather is found on the chest; the middle of the breast and the abdomen and vent are yellower.

3*rd Stage—Spring.* In the female the feathers of the forehead and crown become black, with small stripe-like spots of white, and tipped with red. The chest becomes black; the white on the upper parts is still deeply washed with yellowish brown.

4*th Stage.—Autumn.* In both sexes the feathers of the forehead and crown are tipped with crimson and have black bases and devoid of white spots; the throat in the male is crimson and the feathers bordering the gular patch, as well as those comprising the auricular stripe, are becoming deep black; the back is still washed with yellowish brown.

5th Stage.—Spring. This is the fully adult plumage, in which both sexes have the forehead and crown uniform crimson, the male having the chin and throat crimson, these in the female being white; the white on the back has generally lost its yellowish-brown tinge.

It appears, therefore, that this species is two years in arriving at maturity.

Hab. Northern and Eastern North America; has been found as far north as Julianshaab, South Greenland; extends into Mexico, Guatemala, Yucatan, Honduras, Costa Rica, and into the island of St. Andrews; also occurs in several of the West-Indian Islands (Jamaica, Cuba, St. Croix) and in the Bahamas.

a. ♂ ad.; *b*. ♀ imm. sk.	Fort Simpson.	B. R. Ross, Esq. [P.].
c. ♂ ad. sk.	Hudson Bay, July.	Gould Coll.
d. ♂ ad. sk.	49th Parallel.	N.A. Boundary Commission.
e. ♂ ad. sk.	Crystal, Michigan.	Prof. Steere [P.].
f. ♂ ad.; *g*. ♀ juv. sk.	Salem, Washington, N.Y. (*J. H. Hurst*).	Tweeddale Coll.
h. ♂ ad. sk.	New York (*Hurst*).	Sclater Coll.
i–l. ♂ ad. et juv.; *m*, *n*. ♀ ad. et imm. sk.	Lyons Falls, New York, Apr., Sept., Oct. (*A. Jenings Dayan*).	
o–c'. ♂ ad. et juv.; *d'–k'*. ♀ ad. et juv. sk.	Locust Grove, New York, April–Aug. (*Hart Merriam*).	
l', *m'*, *n'*. ♂ ad. sk.	Big Otter Lake, N.Y., April (*Hart Merriam*).	
o'. ♀ imm.; *p'*. Juv. sk.	West Turin, N.Y., June, Aug. (*Hart Merriam*).	
q'. ♂ ad. sk.	Leyden, N.Y., May (*Hart Merriam*).	
r', *s'*. ♂ ad. et juv.; *t'*, *u'*. ♀ imm. sk.	Chicago, Illinois, April, Sept. (*E. W. Nelson*).	
v', *w'*. ♂ ad.; *x'–a''*. ♀ ad. et imm. sk.	Waukegan, Ill., April, May (*E. W. Nelson*).	
b''. ♂ ad.; *c''*, *d''*, *e''*. ♀ ad. et imm. sk.	Evanston, Ill., April (*E. W. Nelson*).	Henshaw Coll. [S.-G.].
f''. ♀ ad. sk.	Massachusetts (*Henshaw*).	
g''. ♂ ad. sk.	Cambridge, Mass., Oct. (*Henshaw*).	
h''. ♀ juv. sk.	Newtonville, Mass. (*Henshaw*).	
i''. ♂ imm. sk.	Wellesley, Mass., Oct. (*Henshaw*).	
k'', *l''*. ♂ imm.; *m''–r''*. ♀ ad. et imm. sk.	Washington, D.C., Nov., Jan., Feb. (*Hart Merriam*).	
s''. ♀ imm. sk.	Hollisters, Virginia, Nov. (*Henshaw*).	
t''. ♀ imm. sk.	Aiken, S. Carolina, March (*Hart Merriam*).	

u''. ♂ ad.; *v''*, *w''*. Imm. sk.	Miami, Florida, Dec. (*Henshaw*).	Salvin-Godman Coll.
x''. ♀ ad sk.	Papalote, Bee Co., Texas, Jan. (*F. B. Armstrong*).	Salvin-Godman Coll.
y''. ♂ ad.; *z''–c*³. ♀ ad. et imm. sk.	Corpus Christi, Texas, Oct., Dec. (*F. B. Armstrong*).	Salvin-Godman Coll.
*d*³, *e*³, *f*³. ♀ ad.; *g*³. Juv. sk.	Mexico.	Gould Coll.
*h*³, *i*³. ♂ ♀ ad.; *k*³. ♀ imm.; *l*³. Juv. sk.	Mexico.	Tweeddale Coll.
*m*³. ♀ imm. sk.	Sierra Madre, above Ciudad Victoria, Tamaulipas, May (*W. B. Richardson*).	Salvin-Godman Coll.
*n*³, *o*³, *p*³. Imm. sk.	Jalapa, Jan., Feb., March (*F. D. G.*).	Salvin-Godman Coll.
*q*³. ♀ ad. sk.	Hacienda de los Atlixcos, March (*F. D. G.*).	Salvin-Godman Coll.
*r*³. ♂ ad. sk.	Coapa, Tlalpam, April.	Commis. Geogr. Explor. Mex. [S.-G.].
*s*³, *t*³. ♂ ♀ imm. sk.	Yxtapalapa, Tlalpam, Jan.	
*u*³. ♀ ad. sk.	Mexicalcingo, Tlalpam, Jan.	
*v*³. ♀ ad. sk.	Hac. Eslava, Tlalpam, Jan.	
*w*³. ♀ juv. sk.	Culhuacan, Tlalpam, Dec.	
*x*³. ♀ imm. sk.	Coajimalpa, Tucubaya, Feb.	
*y*³. (♀ ♂) imm. sk.	Chimalpa, Tucubaya, Jan.	
*z*³. ♀ ad. sk.	Orizaba, Mexico.	Sclater Coll.
*a*⁴, *b*⁴. ♂ ad.; *c*⁴. ♀ ad. sk.	Tonaguia, Oaxaca, Feb. (*M. Trujillo*).	Salvin-Godman Coll.
*d*⁴. ♀ ad. sk.	Villa Alta, Oaxaca, March (*M. Trujillo*).	Salvin-Godman Coll.
*e*⁴. ♀ ad. sk.	Totontepec, Oaxaca, Feb. (*M. Trujillo*).	Salvin-Godman Coll.
*f*⁴. ♀ imm. sk.	Tetelco, Xochimilco, Jan.	Salvin-Godman Coll.
*g*⁴, *h*⁴. ♀ ad. et juv. sk.	Guatemala.	Tweeddale Coll.
*i*⁴, *k*⁴. ♀ ad. sk.	Guatemala.	Gould Coll.
*l*⁴, *m*⁴, *n*⁴. Juv. sk.	Coban, Guatemala (*O. S.*).	Salvin-Godman Coll.
*o*⁴, *p*⁴. ♀ ad. sk.	Vera Paz, Guatemala.	Salvin-Godman Coll.
*q*⁴. ♀ ad.; *r*⁴, *s*⁴. Juv. sk.	Dueñas, Guatemala (*O. S.*).	Salvin-Godman Coll.
*t*⁴, *u*⁴. ♀ ad. sk.	Volcan de Fuego, Guatemala (*O. S.*).	Salvin-Godman Coll.
*v*⁴. ♂ juv. sk.	Volcan de Agua, Guatemala, Nov. (*O. S.*).	Salvin-Godman Coll.
*w*⁴. Juv. sk.	Costa Rica.	Tweeddale Coll.
*x*⁴. Sternum.	N. America.	Purchased.

Subsp. *a*. Sphyropicus nuchalis.

Sphyrapicus nuchalis, *Baird, B. N. Amer.* p. 103, pl. xxxv. figs. 1, 2, ♂ ♀ (1858); *Cooper, Proc. Cal. Acad.* 1863, p. 122; *Cass. Proc. Acad. Philad.* 1863, p. 204; *Coues, Ibis*, 1865, p. 162; *id. Proc. Acad. Philad.* 1866, p. 53; *Ridgw. U.S. Geol. Expl.* 40*th Par.* pt. iii. *Orn.* p. 549 (1877).

Sphyrapicus varius (pt.), *Malh. Picidæ*, i. p. 161 (1861); *Gray, Hand-l. B.* ii. p. 186, no. 8617 (1870).

Cladoscopus nuchalis, *Cab. & Heine, Mus. Hein.* iv. p. 82 (1863).

Picus varius (occidentalis), *Sundev. Consp. Av. Picin.* p. 34 (1866).
Sphyropicus varius, var. nuchalis, *Baird, Ibis,* 1867, p. 270; *B., B., & R. Hist. N. Amer. B.* ii. p. 542, pl. li. figs. 3 ♂, 4 ♀ ad. (1874).
Sphyropicus varius (*non Linn.*), *Brown, Ibis,* 1868, p. 419.
Picus varius, var., *Gray, List Picid. Brit. Mus.* p. 52 (1868).
Sphyropicus nuchalis, *Coop. B. Calif. ed. Baird,* i. p. 390 (1870).
Sphyrapicus varius, var. nuchalis, *Ridgw. Proc. Essex Inst.* 1875, p. 38; *Hensh. U.S. Geogr. Surv. W. of* 100*th Merid.* 1875, p. 392.
Sphyrapicus varius nuchalis, *Rigw. Proc. Essex Inst.* 1875, pp. 24, 34; *id. Proc. U.S. Nat. Mus.* 1880, p. 189; *Beld. op. cit.* 1883, p. 349; *Drew, Auk,* 1885, p. 17; *Scott, t. c.* p. 427; *A. O. U. Check-list N. Amer. B.* p. 215, no. 402 *a* (1886); *Ridgw. Man. N. Amer. B.* p. 288 (1887).
Picus varius (pt.), *Giebel, Thes. Orn.* iii. pp. 184, 185 (1876).
Sphyropicus varius nuchalis, *Coues, Check-list N. Amer. B.* 2nd ed. 1882, p. 78, no. 447; *id. Key N. Amer. B.* 2nd ed. 1884, p. 486, no. 447; *Scott, Auk,* 1885, p. 174.

Adult male. Differs from *S. varius* in having many of the black malar feathers, and the feathers composing the stripes across the face, and the nuchal band (which are white in that species) tipped with crimson, the nuchal feathers being almost entirely red. Total length 8 inches, culmen 0·93, wing 4·95, tail 2·9, tarsus 0·8; toes (without claws)—outer anterior 0·55, outer posterior 0·55, inner anterior 0·45, inner posterior 0·25.

Adult female. Has the chin white, the throat-feathers red on their apical portion; the face crossed by two black and two white stripes without any red upon the feathers; the nuchal feathers tipped with red. In other respects it resembles the adult male. Total length 8 inches, culmen 1, wing 4·9, tail 2·65, tarsus 0·8.

The young are very similar to the young of *S. varius*, but are slightly darker.

Hab. Rocky-Mountain region of the United States, west to the eastern slopes of the Sierra Nevada, north into British Columbia, extending south into New Mexico, Arizona, and the southern portion of Lower California, and also into Mexico (Chihuahua).

a. ♂ ad. sk.	British Columbia.	J. K. Lord, Esq. [P.].
b. ♀ ad. sk.	N.W. Boundary (*Kennerley*).	Sclater Coll.
c. ♂ ad. sk.	Bidwell, California, July (*Henshaw*).	Henshaw Coll. [S.-G.].
d. ♂ imm. sk.	Toquerville, Utah, Oct. (*Henshaw*).	
e, f. ♂ ♀ ad. sk.	Fort Garland, Colorado, May, June (*Henshaw*).	
g. ♀ ad. sk.	Rio Grande, Colorado, June (*Henshaw*).	
h. ♀ juv. sk.	Park Co., Colorado, July (*E. E. Aiken*).	
i, k. ♂ ad.; *l, m, n.* ♀ imm. sk.	Gila Co., Arizona, Oct., Nov. (*Henshaw*).	
o. ♂ imm. sk.	Tucson, Arizona, Dec. (*Henshaw*).	
p. ♂ ad. sk.	New Mexico.	Sclater Coll.
q–u. ♂ ad. et imm.; *v–y.* ♀ ad. et imm. sk.	Santa Fé Mts., New Mexico, July–Sept. (*Henshaw*).	Henshaw Coll. [S.-G.].

z. ♂ ad. sk.	Fort Benton, Mississippi, April (*J. A. Mullan*).	Salvin-Godman Coll.
a', *b'*. ♂ ad. sk.	Temosachic, Chihuahua, Mexico, March (*W. Lloyd*).	Salvin-Godman Coll.
c'. ♂ ad.; *d'*. ♂ imm. sk.	Guerrero, Chihuahua, Jan., March (*W. Lloyd*).	Salvin-Godman Coll.
e'. ♂ ad. sk.	Casa Colorado, Chihuahua, March (*W. Lloyd*).	Salvin-Godman Coll.
f'. ♂ ad. sk.	Refugio, Chihuahua, Dec. (*W. Lloyd*).	Salvin-Godman Coll.

2. Sphyropicus ruber.

Picus ruber, *Gm. Syst. Nat.* i. p. 429 (1788); *Lath. Ind. Orn.* i. p. 228 (1790); *Steph. Gen. Zool.* ix. p. 100 (1815); *Wagl. Syst. Av.*, Picus, sp. 15 (1827); *Aud. Syn. B. N. Amer.* p. 181 (1839); *id. Orn. Biogr.* v. p. 179, pl. ccccxvi. figs. 9, 10, ♂ ♀ ad. (1839); *Vig. in Beechey's Voy.* p. 23 (1839); *Aud. B. Amer.* iv. p. 261, pl. ccl xvi. figs. 1 ♂ ad., 2 ♀ ad. (1842); *Heerm. Journ. Acad. Philad.* 1853, p. 270; *Malh. Picidæ*, i. p. 132, pl. xxxi. figs. 1, 2, ♂ ♀ ad. (1861); *Sundev. Consp. Av. Picin.* p. 32 (1866); *Gray, List Picid. Brit. Mus.* p. 51 (1868); *id. Hand-l. B.* ii. p. 186, no. 8616 (1870).

Picus flaviventris, *Vieill. Ois. Amér. Sept.* ii. p. 67 (1807); *Steph. Gen. Zool.* ix. p. 161 (1815); *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 95 (1818); *id. & Bonn. Enc. Méth.* iii. p. 1320 (1823).

Picus niger, *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 90 (1818); *id. & Bonn. Enc. Méth.* iii. p. 1316 (1823).

Melanerpes ruber, *Bp. Comp. List B. Eur. & N. Amer.* p. 39, no. 261 (1838); *Gray, Gen. B.* ii. p. 444 (1846); *Gambel, Journ. Acad. Philad.* 1847, p. 56; *Bp. Consp. Gen. Av.* i. p. 115 (1850); *Reichenb. Scans. Picinæ*, p. 382, no. 883, pl. dcxlii. nos. 4387–88 (1854); *Sclat. P. Z. S.* 1857, p. 127; *id. op. cit.* 1858, p. 2.

Pilumnus ruber, *Bp. Consp. Volucr. Zygod.* p. 8, no. 28 (1854).

Sphyrapicus ruber, *Baird, B. N. Amer.* p. 104 (1858); *Ridgw. U.S. Geol. Exped. 40th Par.* pt. iii. *Orn.* p. 549 (1877); *A. O. U. Check-list N. Amer. B.* p. 215, no. 403 (1886); *Ridgw. Man. N. Amer. B.* p. 289 (1887).

Sphyropicus ruber, *Sclat. P. Z. S.* 1859, p. 236; *Brown, Ibis*, 1868, p. 419; *Coop. B. Calif. ed. Baird*, i. p. 392 (1870); *Hartl. J. f. O.* 1883, p. 275.

Cladoscopus ruber, *Cab. & Heine, Mus. Hein.* iv. p. 82 (1863).

Sphyrapicus varius ruber, *Ridgw. Proc. Essex Inst.* 1874, p. 173; *id. Proc. U.S. Nat. Mus.* 1880, p. 189, no. 309 *b*.

Sphyropicus varius, var. ruber, *B., B., & R. Hist. N. Amer. B.* ii. p. 544, pl. li. fig. 6, ♂ ad. (1874).

Sphyrapicus varius, var. ruber, *Ridgw. Proc. Essex Inst.* 1875, p. 38; *Beld. Proc. U.S. Nat. Mus.* 1878, p. 429.

Sphyropicus varius ruber, *Coues, Check-list N. Amer. B.* 2nd ed. 1882, p. 78, no. 448; *id. Key N. Amer. B.* 2nd ed. 1884, p. 486.

Adult male. Has the upper parts, also the wings and tail and their coverts, similar to those of *S. varius*; but it differs from that species in having the head, neck, chest, and breast red, with a trace of markings similar to those of *S. varius* showing through, in so far as the parts which are black in the latter species are deeper and duller red in *S. ruber*, caused by the feathers having blackish bases;

the nasal plumes and lower half of lores, and an indication of a stripe backwards, white; the red on the breast only tips the feathers, the yellow basal portion of the central ones and the smoky-grey feathers on the sides of the breast with their stripes and sagittate black markings showing clearly through. Total length 7·5 inches, culmen 1·07, wing 4·85, tail 3, tarsus 0·83; toes (without claws)—outer anterior 0·55, outer posterior 0·6, inner anterior 0·43, inner posterior 0·25.

Adult female. Resembles the adult male, but has the red less spread over the breast. Total length 7·5 inches, culmen 1·05, wing 4·95, tail 3·23, tarsus 0·83.

Young. Differ materially from the adult, and resemble the young of *S. nuchalis* and of *S. varius*. They may be distinguished from the latter by their darker and more uniform head and the total absence, or only the slightest possible indication, of a white superciliary stripe. Even in this plumage there is a slight suffusion of red on the head and neck, and sometimes on the chest.

Hab. Pacific-coast region of the United States, from Southern Alaska * into California as far as the San Bernardino Mountains.

a. Juv. sk.	[Behring Straits.]	Capt. Kellett & Lieut. Wood [P.].
b,*c*. Ad.; *d*. Juv. sk.	British Columbia.	J. K. Lord, Esq. [P.].
e. Ad. sk.	Fort Rupert, British Columbia.	Tweeddale Coll.
f. Ad. sk.	Vancouver Island.	Earl Russell [P.].
g. Ad. sk.	St. Juan.	Dr. Lyall [P.].
h, *i*, *k*. ♂ ad.; *l*. ♂; *m*, *n*. ♀ juv. sk.	Fort Klamath, Oregon, April, July, Aug. (*C. E. Bendire, Hensh. Coll.*).	Salvin-Godman Coll.
o. Juv. sk.	California.	Tweeddale Coll.
p. Imm. sk.	California.	Sir E. Belcher [P.].
q, *r*. ♂ ♀ ad. sk.	Greenwood V., Eldorado City, California (*A. Forrer*).	Salvin-Godman Coll.
s, *t*, *u*. ♂ ad. sk.	Jolon, California, Oct. (*Henshaw*).	Henshaw Coll. [S.-G.].
v, *w*. Ad. sk.	Nevada, Cal., Sept., Oct. (*E. W. Nelson*).	
x. Ad. sk.	Stocton, Cal., Dec. (*L. Belding*).	
y. Juv. sk.	Big Trees, Cal., Aug. (*L. Belding*).	
z. ♂ ad. sk.	Kernville, Cal., Oct. (*Henshaw*).	
a'. ♀ ad. sk.	San Luis, Obispo, Cal., Oct. (*Henshaw*).	
b', *c'*. ♀ ad. sk.	Nicasio, Marin Co., Cal., Oct. (*Henshaw*).	
d'. Ad. sk.	San Mateo, Cal., April (*A. Forrer*).	

* This species may be found even further north, as there is in the Collection a specimen labelled "Behring Straits (*Capts. Kellett & Wood*);" but there is no certainty that the specimen was procured actually in the Straits.

e'. ♀ ad. sk.	San Bernardino, Cal., Nov.	Wilson Crewdson, Esq. [P.].
f'. ♂ ad. sk.	San Bernardino Mts., June (*R. B. Herron*).	Salvin-Godman Coll.
g'. Ad. sk.	California (*A. L. Heermann*).	Henshaw Coll. [S.-G.].

3. Sphyropicus thyroideus.

Picus thyroideus, *Cassin, Proc. Acad. Philad.* 1851, p. 349; *Heerm. Journ. Acad. Philad.* 1853, p. 270; *Sundev. Consp. Av. Picin.* p. 32 (1866); *Gray, List Picid. Brit. Mus.* p. 52 (1868).

Pilumnus thyroideus, *Bp. Consp. Volucr. Zygod.* p. 8, no. 26 (1854).

Picus nataliæ, *Malh. J. f. O.* 1854, p. 171.

Centurus nataliæ, *Reichenb. Scans. Picinæ*, p. 411, no. 968 (1854).

Colaptes thyroideus, *Reichenb. Scans. Picinæ*, p. 416, no. 978 (1854).

Melanerpes thyroideus, *Cass. Ill. N. Amer. B.* p. 201, pl. xxxii. (1854); *Sclat. P. Z. S.* 1858, p. 2.

Picus williamsoni, *Newberry, P. R. R. Rep. Zool. Cal. & Or. Route*, vi. p. 89, pl. xxxiv. fig. 1, ♂ imm. (1857); *Sundev. Consp. Av. Picin.* p. 32 (1866).

Melanerpes rubrigularis, *Sclat. Ann. & Mag. Nat. Hist.* 1858, p. 127 (♂ ad.); *id. P. Z. S.* 1858, p. 2, pl. cxxxi. ♂ ad.

Sphyrapicus williamsoni, *Baird, B. N. Amer.* p. 105, pl. xxxiv. fig. 1, ♂ (1858); *Malh. Picidæ*, i. p. 163, pl. xxxvi. fig. 4, ♂ ad. (1861); *Cass. Proc. Acad. Philad.* 1863, p. 204; *Coues, Ibis*, 1865, p. 162; *id. Proc. Acad. Philad.* 1866, p. 54.

Sphyrapicus thyroideus, *Baird, B. N. Amer.* p. 106 (1858) (♀); *Malh. Picid.* i. p. 162, pl. xxxvii. fig. 1 (♀) (1861); *Cass. Proc. Acad. Philad.* 1863, p. 204; *Coues, Ibis*, 1865, p. 162; *id. Proc. Acad. Philad.* 1866, p. 54; *Elliot, New & Unfig. B. N. Amer.* i. pl. xxv., ♀ ♀ ad. (1869); *Hensh. Ann. Lyc. N. York*, xi. p. 9 (1874); *id. U. S. Geogr. Surv. W. of 100th Merid.* 1875, p. 394; *Ridgw. Proc. Essex Inst.* 1875, pp. 34–38; *id. U. S. Geol. Expl. 40th Par.* pt. iii., *Orn.* p. 55 (1877); *id. Proc. U. S. Nat. Mus.* 1880, p. 189; *Drew, Auk*, 1885, p. 17; *A. O. U. Check-list N. Amer. B.* p. 215, no. 404 (1886); *Scott, Auk*, 1886, p. 427; *Lloyd, op. cit.* 1887, p. 191; *Ridgw. Man. N. Amer. B.* p. 289, no. 404 (1887).

Cladoscopus williamsoni, *Cab. & Heine, Mus. Hein.* iv. p. 82 (1863).

Cladoscopus thyroideus, *Cab. & Heine, Mus. Hein.* iv. p. 84 (1863).

Melanerpes williamsoni, *Gray, List Picid. Brit. Mus.* p. 116 (1868); *id. Hand-l. B.* ii. p. 201, no. 8820 (1870).

Sphyropicus williamsoni, *Coop. Orn. Calif. ed. Baird*, i. p. 394 (1870); *B., B., & R. Hist. N. Amer. B.* ii. p. 545, pl. li. fig. 5, ♂ ad. (1874).

Sphyropicus thyroideus, *Coop. Orn. Calif. ed. Baird*, i. p. 394; *Gray, Hand-l. B.* ii. p. 186, no. 8618 (1870); *B., B., & R. Hist. N. Amer. B.* ii. p. 547, pl. lvi. fig. 6, ♀ (1874); *Beld. Proc. U. S. Nat. Mus.* 1878, p. 429; *Coues, Check-list N. Amer. B.* 2nd ed. p. 78, no. 449 (1882); *id. Key N. Amer. B.* 2nd ed. p. 486 (1884); *Scott, Auk*, 1885, p. 174.

Adult male *. Back and scapulars blue-black, with a few stripes of white on the lower back; rump and upper tail-coverts white,

* Owing to the great dissimilarity of the plumage in the sexes, the male was described as *Picus williamsoni*, and for some time supposed to be a species distinct from *S. thyroideus*, which was founded on the female.

the latter margined and varied externally with black; wings and their coverts black, the outer coverts entirely or with the outer webs white, and forming a conspicuous patch running parallel with the edge of the wing; outer webs of the middle primaries and the inner webs of all the quills, except the innermost secondaries, spotted with white; shafts black; tail and the shafts black; head and neck, chest, and sides of the breast blue-black, with a white stripe from behind the eye to the side of the nape, and a second white stripe from the white nasal plumes, which passes under the ear-coverts to their end; on the chin and upper part of the throat a longitudinal spot of bright red; middle of the breast and abdomen uniform deep lemon-yellow; sides of the body, flanks, thighs, and under tail-coverts white, the body-feathers with bars and squamate markings of black, the under tail-coverts varied with black stripes and squamate markings; under wing-coverts and axillaries white, the former having bars and V-shaped markings of black, the latter barred only: "iris brown" (*A. Forrer*). Total length 8·8 inches, culmen 1·05, wing 5·5, tail 3·5, tarsus 0·9; toes (without claws)—outer anterior 0·57, outer posterior 0·62, inner anterior 0·43, inner posterior 0·3.

A male in plumage not fully mature has the red spot on the chin and throat less vivid and with a slight orange tinge, and the white stripe which borders the hind crown and the occiput unites upon the nape with the corresponding stripe.

The younger male has the spot upon the chin and upper throat white; the black of the plumage is almost devoid of gloss, and the middle of the breast and the abdomen have only a slight lemon-yellow tinge.

Adult female. Back and scapulars barred black and drabby white; rump and upper tail-coverts white, some of the latter externally margined and barred on the outer web with black; wings and their coverts brownish black, the coverts spotted and barred with drabby white, the quills spotted with white on both webs; shafts nearly black; tail black, the central pair of feathers narrowly barred with white upon both webs, the two outer large feathers on either side with a few spots, more or less transverse, on the apical portion; shafts black; nasal plumes, head, chin, and throat sandy rufous-brown, darker on the top of the head and on the ear-coverts and whiter in front of the eye, with a few black stripes on the occiput and malar region; the side of the neck, fore neck, and chest less rufous than the head, the fore neck longitudinally spotted with black, the side of the neck and the chest barred with black, the latter being centred by a large black spot, glossed with greenish blue; breast and abdomen lemon-yellow, the sides of the body, flanks, and thighs drabby white barred with black; the under tail-coverts dull white, with black squamate markings; under wing-coverts and axillaries white barred with black. Total length 7·8 inches, culmen 1·05, wing 5·2, tail 3·05, tarsus 0·9.

The immature female wants the black patch on the chest, this being entirely barred; the chin and throat are duller and less rufescent, and the top of the head is dusky brown; the occiput and nape are striped and transversely spotted with black.

The young female resembles the latter, but is duller in colour, that of the chin and throat scarcely differing from the fore neck and chest, only slightly paler, but without any rufescent tinge; the black barring on the underparts is less intense, and the middle of the breast and the abdomen are white with scarcely a trace of yellow.

Hab. Rocky Mountains, from Laramie Peak south into New Mexico and Western Texas, and west to the Pacific coast. Also ranging into Chihuahua, Mexico.

a. ♂ ad.; *b*. ♀ juv. sk.	Laramie Peak, Upper Missouri and Yellowstone, Aug. (*F. V. Hayden*).	Salvin-Godman Coll.
c. ♂ ad. sk.	Fort Klamath, Oregon, Nov. (*C. Bendire*).	Henshaw Coll. [S.-G.].
d. ♂ juv. sk.	Warner Mts., Oregon, Aug. (*Henshaw*).	
e. ♂ ad. sk.	Murphys, Calaveras Co., California (*L. Belding*).	
f. ♀ imm. sk.	Mt. Whitney, Cal. (*Henshaw*).	
g. ♂ ad. sk.	California.	Purchased.
h, i. ♂ ♀ ad. sk.	Fort Whipple, Arizona, Oct., Dec. (*E. Coues*).	Salvin-Godman Coll.
k, l. ♀ ad. et imm. sk.	Mt. Graham, Arizona, Sept. (*Henshaw*).	Henshaw Coll. [S.-G.]
m. ♂ ad. sk.	Gila River, New Mexico, Nov. (*Henshaw*).	
n–u. ♂ ad.; *v–y*. ♂ imm.; *z–f'*. ♀ ad. et imm. sk.	Santa Fé Mts., New Mexico, July–Sept. (*Henshaw*).	
g'. ♂ ad. sk.	Rio Blanco, Colorado, Sept. (*Wheeler*).	
h'. ♂ ad. sk.	Fort Garland, Colorado, May (*Henshaw*).	
i'. ♂ ad. sk.	Pinos Altos, Chihuahua, Mexico, Dec. (*Buchan-Hepburn*).	Salvin-Godman Coll.
k'. ♀ ad. sk.	Pinos Altos, Dec. (*W. Lloyd*).	Salvin-Godman Coll
l'. ♂ ad. sk.	Jesus Maria, Chihuahua, Dec. (*W. Lloyd*).	Salvin-Godman Coll.
m'. ♂ ad. sk.	Casa Colorado, Chihuahua, Jan. (*W. Lloyd*).	Salvin-Godman Coll.
n'. ♂ ad. sk.	Refugio, Chihuahua, Dec. (*W. Lloyd*).	Salvin-Godman Coll.

14. HYPOPICUS.

Type.

Hypopicus, *Bp. Consp. Volucr. Zygod.* no. 62 (1854). . H. hyperythrus.
Xylurgus, *Cab. & Heine, Mus. Hein.* iv. p. 50 (1863). . H. hyperythrus.

Range. From Cashmere, through the Himalayan region, to the Khasia Hills and Manipur; southward into Cochin China, and to the north (probably through Eastern Tibet) as far as Koko-nor and into North China (neighbourhood of Pekin).

Key to the Species.

A. Underparts rich rufous; the primaries (when closed) crossed by five or six white bars; under

mandible yellow; nasal plumes black; the bars on the back and on the thighs narrower.

a'. Top of the head, occiput, and nape crimson .. *hyperythrus* ♂ ad., [p. 199.

b'. Top of the head, occiput, and nape black, spotted with white..... *hyperythrus*, ♀ ad., [p. 200.

B. Underparts rufous-brown; the primaries (when closed) crossed by not more than four white bars; under mandible not yellow, and of the same colour as the upper mandible; nasal plumes buff tipped with black; the bars on the back and on the thighs broader.

c'. Top of the head, occiput, and nape crimson .. *poliopsis* ♂ ad., [p. 201.

d'. Top of the head, occiput, and nape black, spotted with white..... *poliopsis* ♀ ad., [p. 201.

1. Hypopicus hyperythrus.

Picus hyperythrus, *Vig. P. Z. S.* 1831, p. 23; *Gould, Cent. B. Himal. Mts.* pl. 1. ♂ ♀ ad. (1832); *Blyth, J. A. S. B.* 1845, p. 196; *Gray, Gen. B.* ii. p. 435 (1845); *id. Cat. Mamm. &c. Nepal pres. Hodgs.* 1846, p. 115; *Blyth, Cat. B. Mus. As. Soc.* p. 63 (1849); *Bp. Consp. Gen. Av.* i. p. 136 (1850); *Reichenb. Scans. Picinæ*, p. 368, no. 850, pl. dcxxxv. figs. 4224–25, ♂ ♀ (1854); *Malh. Picidæ*, i. p. 130, pl. xxx. figs. 4, 5, 6, ♂ ♀ ad., ♂ juv. (1861); *Sundev. Consp. Av. Picin.* p. 30 (1866); *Gray, List Picid. Brit. Mus.* p. 40 (1868); *id. Hand-l. B.* ii. p. 183, no. 8572 (1870); *Jerd. Ibis*, 1872, p. 7.

Dendrocopus hyperythrus, *Hodgs. in Gray's Zool. Misc.* 1844, p. 85.

Hypopicus hyperythrus, *Bp. Consp. Volucr. Zygod.* p. 8, no. 62 (1854); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 675 (1856–58); *Jerd. B. Ind.* i. p. 276 (1862); *Gray, Cat. Mamm. &c. Nepal pres. Hodgs.* 1863, p. 63; *Hume, Str. F.* xi. p. 59 (1888).

Xylurgus hyperythrus, *Cab. & Heine, Mus. Hein.* iv. p. 50 (1863).

? Picus flavirostris*, *David, Nouv. Arch. du Mus.* 1871, *Bull.* vii. p. 4.

Adult male. Back, rump, and scapulars barred black and white; upper tail-coverts black; wings and their coverts black, the latter, as well as both webs of the quills, spotted with white; the primaries (when closed) crossed by five or six white bars; shafts brownish black; tail black, the two outer large feathers on either side barred with white on the apical half, the next inner feather spotted with white near the tip; shafts black; nasal plumes black; base of the forehead greyish white; crown, occiput, and nape crimson, this colour spreading on to the side of the neck, the bases of the feathers dusky leaden grey, with an occasional small streak or spot of white; anterior half of face white, the malar region and the chin dusky; posterior half of face, the neck (except the hind part), and the under surface of the body rich rufous, the thighs barred black and white, and the vent and under tail-coverts scarlet; under wing-coverts white barred with black; axillaries white. Total length 8 inches, culmen 1·15, wing 5, tail 3, tarsus 0·85; toes (without

* This Woodpecker was only seen (not obtained) at Koko-nor by the Abbé David, and the name "Pic roux *à bec jaune*" given by this author is suggestive of the bird having been either *H. hyperythrus* or a new species.

claws)—outer anterior 0·53, outer posterior 0·62, inner anterior 0·47, inner posterior 0·25.

Adult female. Differs from the adult male in having the whole of the top of the head, occiput, and nape black, spotted with white. Total length 7·7 inches, culmen 1, wing 4·65, tail 2·9, tarsus 0·8.

Young. A specimen from the N.W. Himalayas (*Pinwill*), which I take to be the young of the present species (the only young example I have seen), differs from the adult male in having the white on the back partaking more of the character of transverse spots than of distinct bars; the red on the head almost confined to the forehead and crown, and the feathers transversely varied with black, and without any white spots; the neck and underparts rather paler and more dingy rufous; *chest deeply washed with scarlet*; the breast-feathers with a few dusky black spots and concealed black bars; the remainder of the underparts having large bar-like spots of black, and partially concealed white ones; bill entirely black.

I cannot say whether the scarlet on the chest is a character in the young, or whether it is abnormal. The young of the allied species *H. poliopsis* do not possess it.

Hab. Cashmere and through the Himalayan region to the Khasia hills and Manipur, and probably northward through Eastern Thibet to Koko-nor, as the Abbé David observed a Woodpecker at the latter place answering to the present species. It also ranges into Cochin China, in which country it was obtained by Dr. Harmand.

a. ♂ ad.; *b*, *c*. ♀ ad. sk.	Cashmere (*Dr. Bellew*).	India Museum.
d. ♀ ad. sk.	Koteghur, April 1871.	Hume Coll.
e. ♂ ad. sk.	Murree.	Hume Coll.
f, *g*. ♂ ♀ ad. sk.	Murree (*J. Biddulph*).	Tweeddale Coll.
h, *i*. ♂ ♀ ad. sk.	Masuri.	Hume Coll.
k, *l*. ♂ ♀ ad.; *m*. Juv. sk.	Masuri.	Pinwill Coll.
n, *o*. ♂ ad.; *p*. ♀ ad. sk.	Masuri (*S. Pinwill*).	Tweeddale Coll.
q. ♀ ad. sk.	Middle range of hills north of Masuri.	Hume Coll.
r, *s*. ♂ ♀ ad. sk.	Almorah, Oct. 1866.	Hume Coll.
t. ♀ ad. sk.	Naini Tal, April, 18, 1868.	Hume Coll.
u. ♂ ad. sk.	Bheem Tal, Nov. 10, 1866.	Hume Coll.
v, *w*. ♂ ad.; *x*–*a'*. ♀ ad. sk.	Nepal.	Hodgson Coll.
b', *c'*. ♂ ♀ ad. sk.	Nepal (*B. H. Hodgson*).	India Museum.
d'. ♀ ad. sk.	Nepal, Jan. 1876.	Hume Coll.
e', *f'*. ♂ ad.; *g'*, *h'*. ♀ ad.; *i'*. ♀ imm. sk.	Native Sikhim, Jan., April (*L. Mandelli*).	Hume Coll.
k', *l'*, *m'*. ♂ ad. et imm.; *n'*. ♀ imm. sk.	Sikhim, April, June (*L. Mandelli*).	Hume Coll.
o'. ♂ ad. sk.	Darjeeling.	Hume Coll.
p', *q'*. ♂ ad.; *r'*, *s'*, *t'*. ♀ ad. sk.	Darjeeling.	Tweeddale Coll.
u', *v'*. ♂ ad.; *w'*. ♀ ad. sk.	Khasia hills, Oct. 1876 (*A. W. Chennell*).	Tweeddale Coll.

x'. ♀ ad. sk.	Kokshinkoonoo, Manipur, April 3, 1881 (*A. O. H.*).	Hume Coll.
y'. ♂ ad. sk.	Tankool Hoondoong, Manipur, May 20, 1881 (*A. O. H.*).	Hume Coll.

2. Hypopicus poliopsis.

Pied Woodpecker, Picus ?, *Swinh. Ibis*, 1861, p. 339; 1863, p. 96.
Picus hyperythrus (*non Vig.*), *Swinh. P. Z. S.* 1862, p. 319.
Picus hyperythrus, var. poliopsis, *Swinh. P. Z. S.* 1863, p. 268.
Xylurgus subrufinus, *Cab. & Heine, Mus. Hein.* iv. p. 50 (1863).
Picus hyperythrus, var., *Sundev. Consp. Av. Picin.* p. 31 (1866).
Picus poliopsis, *Gray, List Picid. Brit. Mus.* p. 40 (1868); *Swinh. P. Z. S.* 1870, p. 440.
Picus subrufinus, *Gray, Hand-l. B.* ii. p. 183, no. 8573 (1870).
Hypopicus poliopsis, *Swinh. P. Z. S.* 1871, p. 392; *David & Oust. Ois. Chine*, p. 51 (1877).

Adult male. Resembles *H. hyperythrus*, but differs in having the bars on the back broader; the primaries (when closed) crossed by not more than four white bars; the underparts browner and less rufous, and in the centre of the chest a spot of red; the white interspaces between the black bars on the thighs broader; nasal plumes buff tipped with black; bill entirely horny black. Total length 8 inches, culmen 1·1, wing 5·1, tail 2·95, tarsus 0·9; toes (without claws)—outer anterior 0·57, outer posterior 0·63, inner anterior 0·5, inner posterior 0·3.

Adult female. Differs from the adult male in having the top of the head, occiput, and nape black spotted with white. Total length 8·5 inches, culmen 1·1, wing 5·1, tail 3·4, tarsus 0·83.

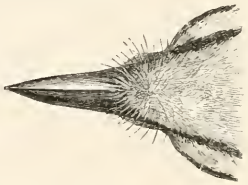
Young male. Has the top of the head red; the chin and throat whiter and striped with dusky; the sides of the neck, fore neck, and chest rufescent white, the feathers partially margined with dusky black and having blackish bases, the whole having a spotted appearance; the breast also slightly spotted in a similar manner; the tips of the primaries white.

Hab. Northern China (neighbourhood of Pekin).

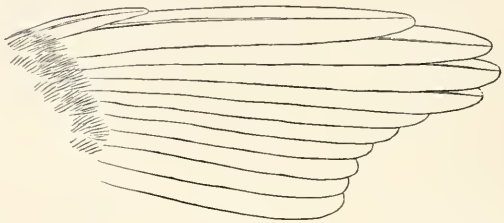
15. DENDROCOPUS.

	Type.
Dendrocopos, *Koch, Baier. Zool.* i. p. 72 (1816)....	D. major.
Dryobates, *Boie, Isis*, 1826, p. 977	D. pubescens.
Dendrodromas, *Kaup, Natürl. Syst.* p. 136 (1829) .	D. leuconotus.
Leuconotopicus, *Malh. Rev. Zool.* 1845, p. 373	D. stricklandi.
Dyctiopicus, *Bp. Consp. Volucr. Zygod.* no. 29 (1854)	D. mixtus.
Pipripicus, *Bp. Consp. Volucr. Zygod.* no. 50 (1854).	D. leuconotus.
Phrenopicus, *Bp. Consp. Volucr. Zygod.* no. 34 (1854)	D. borealis.
Piculus, *Brehm, Vollst. Vogelf.* 1855, p. 70.....	D. minor.
Pyropicus, *Malh. Introd. Monogr. Picid.* p. liii (1861)	D. borealis.

Dendrotypes, *Cab. & Heine, Mus. Hein.* iv. p. 46 (1863) ..... D. macii.
Xylocopus, *Cab. & Heine, Mus. Hein.* iv. p. 51 (1863) ..... D. minor.
Threnopipo, *Cab. & Heine, Mus. Hein.* iv. p. 70 (1863) ..... D. borealis.
Dictyopipo, *Cab. & Heine, Mus. Hein.* iv. p. 74 (1863) ..... D. scalaris.



a



b

a. Chin-angle of *Dendrocopus major*.
b. Wing of *Dendrocopus major* (reduced).

Range. Almost the entire Palæarctic, Indian, and Nearctic Regions, reappearing in the Neotropical Region below 20° S. lat.

Key to the Species.

A. Back and rump uniform black or brown.
  a'. With red on the abdomen, vent, or under tail-coverts.
    a''. Sides of the neck crossed by a black band.
      a'''. Scapulars white.
        *a*⁴. The black stripes bordering the throat and fore neck not uniting on the chest, or not connected by a distinct red crescentic patch, occasionally with a small central chest-spot of red; the black bars

ou the lateral tail-feathers narrower than the interspaces.

a^5. Innermost secondaries uniform black. Underparts in the young uniform, or slightly striped on the flanks and thighs.

a^6. The white spots on the secondaries small, rounded, and marginal.

a^7. Larger: length 9·5 inches, wing 5·6; underparts varying from sandy brown to pure white.

a^8. Underparts sandy brown to buffy white; lateral tail-feathers regularly barred with black.

a^9. With red occipital band . *major* ♂ ad., p. 212.

b^9. With no red on occiput . *major* ♀ ad., p. 212.

c^9. Crown red ..... *major* juv., p. 212.

b^8. Underparts pure white; lateral tail-feathers with narrow and irregular bars of black.

d^9. With red occipital band. *cissa* ♂ ad., p. 214.

e^9. With no red on occiput.. *cissa* ♀ ad., p. 214.

b^7. Smaller: length 8·4 inches, wing 4·8; underparts chocolate-brown, smoky brown in young.

c^8. With red occipital band .. *pœlzami* ♂ ad., p. 214.

d^8. With no red on occiput .. *pœlzami* ♀ ad., p. 214.

e^8. Crown red ..... *pœlzami* juv., p. 215.

b^6. The white spots on the secondaries very large, and approaching close to the shaft, and more or less confluent on the margin; underparts pure white.

c^7. With red occipital band .... *leucopterus* ♂ ad., [p. 215.

d^7. With no red on occiput .... *leucopterus* ♀ ad., [p. 215.

e^7. Crown red ..... *leucopterus* ♂ juv., [p. 215.

b^5. Innermost secondaries spotted and barred with white; underparts uniform buff or buffy brown in the adult, and entirely spotted and striped with blackish in the young.

c^6. With red occipital band ..... *japonicus* ♂ ad., [p. 216.

d^6. With no red on occiput ..... *japonicus* ♀ ad., [p. 216.

e^6. Crown red ..... *japonicus* juv., [p. 216.

b^4. The black stripes bordering the throat and fore neck connected on the chest by a crescentic patch of red; the black bars on the lateral

tail-feathers as broad as the inter-spaces. [p. 217.

c^5. With red occipital band ..... *mauritanus* ♂ ad.,

d^5. With no red on occiput ..... *mauritanus* ♀ ad., [p. 217.

e^4. The black stripes bordering the throat and fore neck distinctly uniting in the middle of the chest and forming a complete crescentic band, the tips of most of the black chest-feathers being red. [p. 218.

e^5. With red occipital band ..... *numidicus* ♂ ad.,

f^5. With no red on occiput ..... *numidicus* ♀ ad., [p. 218.

g^5. Crown red; frontal band sooty brown ..... *numidicus* ♂ juv., [p. 218.

b'''. Scapulars black.

d^4. Underparts varying from buffy white to brown; abdomen, as well as vent and under tail-coverts, red; sometimes with red spot on the chest; the crown never red in the adults. [p. 219.

h^5. With red occipital band ..... *cabanisi* ♂ ad.,

i^5. With no red on occiput ..... *cabanisi* ♀ ad., [p. 219.

j^5. Crown red ..... *cabanisi* juv., p. 219.

e^4. Underparts fulvescent brown, the vent and under tail-coverts (only) red; never with a red spot on the chest; the top of the head red in the adult male as well as in the young. [p. 220.

k^5. Crown and occiput red..... *himalayensis* ♂ ad.,

l^5. With no red on the head ..... *himalayensis* ♀ ad., [p. 220.

m^5. Crown (only) red; underparts slightly striated ..... *himalayensis* ♂ juv., [p. 220.

b''. Sides of the neck not crossed by a black band.

c'''. Underparts striated with black.

f^4. With no black patch on the chest.

n^5. Larger: length 8·65 inches, wing 5·1; with no red on the chest. [p. 222.

f^6. With red occipital band ..... *darjilensis* ♂ ad.,

g^6. With no red on occiput ..... *darjilensis* ♀ ad., [p. 222.

h^6. Crown red ..... *darjilensis* juv., [p. 222.

c^5. Smaller: length 6·55 inches, wing 3·87; with red on the chest.

i^6. The red on the chest confined to a small spot; the sexes dissimilar. [p. 223.

f^7. With red occipital band .... *cathpharius* ♂ ad.,

g^7. With no red on occiput .... *cathpharius* ♀ ad., [p. 223.

j^6. With conspicuous and intense red gorget; sexes similar, in both having a red occipital band*.

* *Vide* Hume.

*h*⁷. The chest covered with broad striations..... *pyrrhothorax* ♂ ad., [p. 224.

*i*⁷. The striations on the chest and breast fewer and narrower, and more confined to the sides..... *pyrrhothorax* ♀ ad., [p. 224.

*g*⁴. With large black patch on the chest, and a very conspicuous crescentic spot of crimson.

*p*⁵. With red occipital band ..... *pernyi* ♂ ad., p. 225.

*q*⁵. With no red on occiput ..... *pernyi* ♀ ad., p. 225.

d'''. Underparts uniform.

*h*⁴. The black stripes bordering the throat and fore neck almost uniting on the chest; lateral tail-feathers black, narrowly barred with white.

*r*⁵. With red occipital band ..... *syriacus* ♂ ad., p. 226.

*s*⁵. With no red on occiput ..... *syriacus* ♀ ad., p. 226.

*t*⁵. Crown red; underparts duller and with red spot on the chest .... *syriacus* juv., p. 226.

*i*⁴. The black stripes bordering the throat and fore neck not extending on to the chest; lateral tail-feathers white barred with black. [p. 227.

*u*⁵. Crown and occiput red ..... *scindeanus* ♂ ad.,

*v*⁵. With no red on the head..... *scindeanus* ♀ ad., [p. 227.

b'. With no red on the underparts; above brown. [p. 229.

c''. With red occipital band ..... *arizonæ* ♂ ad.,

d''. With no red on the head ..... *arizonæ* ♀ ad., [p. 229.

e''. Crown red..... *arizonæ* ♂ ♀ juv., [p. 229.

B. Back with a broad median stripe of white or brownish white.

c'. None of the tail-feathers barred.

f''. Larger: length 11 to 8 inches, wing 5·40 to 4·40.

e'''. Wing-coverts and all the quills profusely spotted with white.

*j*⁴. Lores partly or entirely black, thus separating the white superciliary stripe from the light nasal plumes; underparts pure white.

*w*⁵. With red occipital band ..... *villosus* ♂ ad., p. 232.

*x*⁵. With no red on occiput ..... *villosus* ♀ ad., p. 232.

*y*⁵. Crown orange or reddish ..... *villosus* ♂ juv., p. 232.

*k*⁴. Lores partly or entirely white, thus uniting the white superciliary stripe with the light nasal plumes; underparts ashy, the sides mottled and striped with black; the white feathers of the back with black shaft-lines. [p. 234.

*z*⁵. With red occipital band ..... *maynardi* ♂ ad.,

*aa*⁵. With no red on occiput..... *maynardi* ♀ ad., [p. 234.

f'''. Wing-coverts uniform or sometimes sparingly spotted; with fewer and

smaller spots on the quills, sometimes none on the outer webs of the secondaries; underparts smoky white.

l^4. With red occipital band ..... *harrisi* ♂ ad., p. 235.
m^4. With no red on occiput ..... *harrisi* ♀ ad., p. 235.
n^4. Crown orange-red..... *harrisi* juv., p. 235.

g''. Smaller: length 7·5 inches, wing 4·35; underparts dark brown; the median stripe on the back brownish white; wing-coverts unspotted; with small spots on the quills and few or none on the outer webs of the secondaries.

g'''. With red occipital band..... *jardinii* ♂ ad., p. 237.
h'''. With no red on occiput..... *jardinii* ♀ ad., p. 237.
i'''. Crown more or less red ..... *jardinii* juv., p. 237.

d'. Lateral tail-feathers barred.

h''. Wing-coverts profusely spotted; underparts pure white. [p. 240.

j'''. With red occipital band ..... *pubescens* ♂ ad.,
k'''. With no red on occiput..... *pubescens* ♀ ad., [p. 240.
l'''. Crown red ..... *pubescens* ♂ juv.,

i''. Wing-coverts uniform or with very few spots; underparts smoky white. [p. 240. [p. 242.

m'''. With red occipital band ..... *gairdneri* ♂ ad.,
n'''. With no red on occiput..... *gairdneri* ♀ ad., [p. 242.
o'''. Crown more or less red, and spotted with dull white..... *gairdneri* ♀ juv., [p. 242.

C. Back and rump barred with white.

e'. With no red on underparts.

j''. Central tail-feathers uniform.

p'''. With black auricular stripe.

o^4. Auricular stripe extending to the occiput and cutting off the white superciliary stripe from the white on the side of the neck; chin and throat striped. [p. 244.

bb^5. With red occipital band..... *stricklandi* ♂ ad.,
cc^5. With no red on occiput ..... *stricklandi* ♀ ad., [p. 244.
dd^5. Crown red ..... *stricklandi* ♂ juv., [p. 244.

p^4. Auricular stripe more or less distinctly uniting on the side of the neck with the malar stripe; chin and throat uniform.

ee^5. Nasal plumes black; white superciliary stripe cut off from the white at base of bill by a black band; underparts white or slightly smoky; top of the head more or less striped with white.

k^6. With red occipital band ..... *nuttalli* ♂ ad., p. 245.
l^6. With no red on occiput ..... *nuttalli* ♀ ad., p. 245.
m^6. Crown-feathers tipped with red *nuttalli* ♂ juv., p. 245.

ff^5. Nasal plumes brownish white, and together with the white

lores uniting with the white superciliary stripe; underparts sandy brown.

n^6. Outer tail-feathers entirely barred with black.

j^7. Top of the head and occiput red, spotted with white anteriorly ..... *scalaris* ♂ ad., p. 247.

k^7. Top of the head and occiput black ..... *scalaris* ♀ ad., p. 247.

o^6. The three large outer tail-feathers uniform white on three-fourths or sometimes the whole of the outer webs.

l^7. Primary-coverts spotted with white; bill long and slender, width at base 0·28 inch, depth (lateral view) 0·2; tail longer, length 2·6.

f^8. Top of the head and occiput red, spotted with white anteriorly ..... *lucasanus* ♂ ad., [p. 250.

g^8. Top of the head and occiput black ..... *lucasanus* ♀ ad., [p. 250.

m^7. Primary-coverts uniform black; bill short and stout, width at base 0·36, depth (lateral view) 0·4; tail shorter, length 2·25.

h^8. Top of the head and occiput red, spotted with white anteriorly ..... *graysoni* ♂ ad., [p. 250.

i^8. Top of the head and occiput black ..... *graysoni* ♀ ad., [p. 251.

q'''. With no auricular stripe.

q^4. Ear-coverts pure white like the sides of the face and neck; underparts pure white, spotted on the sides with black.

gg^5. With red stripe on the side of the occiput ..... *borealis* ♂ ad., p. 251.

hh^5. With no red stripe on the side of the occiput ..... *borealis* ♀ ad., p. 252.

r^4. Ear-coverts brown, more or less pale.

ii^5. Malar stripe branching out behind ear-coverts, but not joining the occiput.

p^6. The primaries (with closed wing) crossed by five white bars.

n^7. Underparts varying from smoky white to sandy brown and clearly striated with black on the sides; the under tail-coverts spotted; the black barring on the lower back and rump distinct.

j^3. Crown red ..... *minor* ♂ ad., p. 254.
k^3. With no red on the crown, the forehead and greater part of crown white .... *minor* ♀ ad., p. 254.
o^7. Underparts pure white, and together with the under tail-coverts almost devoid of stripe or spot; the black barring on the lower back and rump more obsolete.
l^3. Crown crimson ..... *pipra* ♂ ad., p. 256.
m^3. With no red on the head, the forehead and greater part of the crown white. *pipra* ♀ ad., p. 256.
q^6. The primaries (with closed wing) crossed by four white bars. [p. 256.
p^7. With red on crown ..... *quadrifasciatus* ♂ ad.,
q^7. With no red on crown ..... *quadrifasciatus* ♀ ad., [p. 256.
jj^5. Malar stripe branching out behind the ear-coverts and joining the black of the occiput.
r^6. Crown red ..... *danfordi* ♂ ad., p. 256
s^6. With no red on the crown, the forehead and greater part of the crown buffy white ..... *danfordi* ♀ ad., p. 257.
k''. Central tail-feathers as well as the lateral ones all barred.
r'''. Larger: length 6·25 inches, wing 3·47; plumage black (or slightly brownish) and white.
s^4. Central tail-feathers crossed by five transverse narrow white bars; white striations on the top of the head, in male, hair-like; underparts broadly striped with black.
kk^5. With red occipital band..... *lignarius* ♂ ad., [p. 258.
ll^5. With no red on the head, the crown and occiput black ..... *lignarius* ♀ ad., [p. 258.
mm^5. Feathers of the forehead and crown tipped with orange-red. *lignarius* juv., p. 258.
t^4. Central tail-feathers crossed by seven oblique black bars; the white striations on the top of the head drop-like; underparts fulvescent, and the markings on the chest and breast more spotted in character.
nn^5. The sides of the occiput red, but this colour not forming a distinct band; forehead and crown striped with white ..... *mixtus* ♂ ad., p. 259.
oo^5. With no red on the head, the top of the head and the occiput brown, the forehead with a few whitish shaft-streaks .... *mixtus* ♀ ad., p. 259.
s'''. Smaller: length 5·7 inches, wing 3·4, tail 1·62; central tail-feathers crossed

by five black bars; underparts not fulvescent and having minute dusky spots more or less longitudinal.

u^1. Entire top of the head uniform umber-brown ..... *cancellatus* ♀ ad., [p. 260.

v^1. Top of the head striped with white; occiput (only) red ..... *cancellatus* ♂ ad., [p. 260.

w^1. Top of the head red ..... *cancellatus* juv., [p. 260.

f'. With more or less red on the underparts or under tail-coverts.

l''. Red on underparts confined to the vent and under tail-coverts; malar stripe entirely black; ear-coverts only slightly dusky.

t'''. Sides of the face and neck, chin, throat, and fore neck uniform buff; underparts faintly striated on the breast and barred on the thighs with black.

x^1. Crown and occiput red ..... *macii* ♂ ad., p. 261.

y^1. Crown and occiput black ..... *macii* ♀ ad., p. 261.

u'''. Sides of the face and neck pure white; underparts rich fulvescent, and these as well as the fore neck closely striped with deep black.

z^1. Crown and occiput red ..... *atratus* ♂ ad., p. 263.

aa^1. Crown and occiput black ..... *atratus* ♀ ad., p. 263.

m''. Red on the underparts extending on to the lower part of the abdomen; anterior portion of the malar stripe and the ear-coverts umber-brown; top of the head olive-brown; forehead and crown uniform in the adult, spotted in the young.

v'''. Occipital feathers golden yellow, tipped with red ..... *brunneifrons* ♂ ad., [p. 264.

w'''. With no red on the dull yellow occipital feathers ..... *brunneifrons* ♀ ad., [p. 265.

x'''. Forehead and crown spotted with dull yellowish; feathers of hind part of crown tipped with red .... *brunneifrons* juv., [p. 265.

n''. Red on the underparts confined to the under tail-coverts.

y'''. Ground-colour of underparts buffy white; black spots on chest very small; bases of red feathers on the head in the male dusky black; red on under tail-coverts faint.

bb^1. Crown and occiput red ..... *analis* ♂ ad., p. 266.

cc^1. Crown and occiput black ..... *analis* ♀ ad., p. 267.

z'''. Ground-colour of underparts below the chest fulvescent dusky; black spots on chest very large; bases of red crown-feathers in male leaden grey; under tail-coverts bright red. [p. 267.

dd^1. Crown and occiput red ..... *andamanensis* ♂ ad., [p. 268.

ee^1. Crown and occiput black ..... *andamanensis* ♀ ad., [p. 268.

D. Lower part of the back uniform white, the upper back uniform black.
g'. Face, neck, and underparts anteriorly white; ear-coverts only slightly darker.
o''. With less white on lower back, scapulars, wing-coverts, and innermost secondaries, upon the latter forming spots or bars; striations on underparts broader; lateral tail-feathers more distinctly barred. [p. 269.
aa'''. Crown and occiput red ..... *leuconotus* ♂ ad.,
bb'''. Crown and occiput black ..... *leuconotus* ♀ ad., [p. 270.
cc'''. Crown reddish orange ..... *leuconotus* ♂ juv., [p. 270.
p''. With the white markings more developed, the white on the innermost secondaries occupying the apical half of the feather; striations below narrower; lateral tail-feathers less barred, the outer webs uniform or only slightly spotted.
dd'''. Crown and occiput red..... *cirris* ♂ ad., p. 271.
ee'''. Crown and occiput black ..... *cirris* ♀ ad., p. 271.
h'. Face, neck, and underparts anteriorly clear pale buff; ear-coverts pale umber-brown; white of lower back tinged with buff; striations below very broad; under tail-coverts with dusky brown shaft-stripes.
q''. Crown and occiput red ..... *subcirris* ♂ ad., p. 271.
r''. Crown and occiput black..... *subcirris* ♀ ad., p. 272.
s''. Crown orange-red..... *subcirris* ♂ juv., [p. 272.
E. The white of the lower back barred with black; upper back uniform black.
i'. Larger: length 10·5 inches, wing 5·8; ground-colour of underparts anteriorly white; median and greater wing-coverts with large spots of white.
t''. Crown and occiput red ..... *lilfordi* ♂ ad., p. 272.
u''. Crown and occiput black ..... *lilfordi* ♀ ad., p. 272.
j'. Smaller: length 9 inches, wing 5·25 to 5·73.
v''. Ground-colour of underparts strongly fulvescent anteriorly; wing-coverts uniform black, or only slightly spotted.
ff'''. With less black on the sides of the chest and breast, and more white on lower back; no red on the chest.
ff[4]. Crown and occiput red ..... *insularis* ♂ ad., p. 273.
gg[4]. Crown and occiput black ..... *insularis* ♀ ad., p. 273.
hh[4]. Crown orange-red ..... *insularis* ♂ juv., [p. 273.
gg'''. With more black on the sides of the chest and breast, and less white on lowe back ,with red on the chest; crown and occiput red ..... *namiyei* ♂ ad., p. 273.

1. Dendrocopus major.

Picus major, *Linn. Syst. Nat.* i. p. 176 (1766); *Penn. Brit. Zool.* p. 79, pl. E (1766); *Scop. Ann.* i. p. 47 (1769); *Gm. Syst. Nat.* i. p. 436 (1788); *Lath. Ind. Orn.* i. p. 228 (1790); *Lewin, B. Gt. Brit.* p. 38, pl. 48 (1796); *Bechst. Orn. Taschenb.* i. p. 63 (1802); *Blum. M. Hist. Nat.* i. p. 205 (1803); *Bechst. Naturg. Deutschl.* ii. p. 1022 (1805); *Temm. Cat. Syst.* p. 62 (1807); *Meyer & Wolf, Taschenb.* i. p. 121 (1810); *Meyer, Vög. Liv- u. Esth.* p. 62 (1815); *Steph. in Shaw's Gen. Zool.* ix. p. 163, pl. 33 (1815); *Meisn. & Schinz, Vög. Schweiz*, p. 40 (1815); *Forst. Syn. Cat. Brit. B.* p. 7 (1817); *Nilss. Orn. Suec.* i. p. 108 (1817); *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 74 (1818); *Temm. Man. d'Orn.* i. p. 395 (1820); *Bonn. & Vieill. Enc. Méth.* iii. p. 1303 (1823); *Roux, Orn. Prov.* i. p. 96, pl. lx. (1825); *Valenc. Dict. Sc. Nat.* xl. p. 179 (1826); *Risso, Eur. Mérid.* iii. p. 60 (1826); *Werner, Atlas*, pl. 203 (1827); *Wagl. Syst. Av.* Picus, sp. 17 (1827); *Savi, Orn. Tosc.* i. p. 142 (1827); *Less. Traité*, i. p. 218 (1831); *Selby, Brit. B.* i. p. 376, pl. xxxviii. fig. 3 (1833); *Glog. Nat. Gesch. Eur. Vög.* i. p. 458 (1834); *Jenyns, Man. Brit. Vertebr.* p. 150 (1835); *Webb, Berth. & Moq.-Tand. Hist. Nat. Canar., Orn.* p. 26 (1836–44); *Keys. & Blas. Wirb. Eur.* pp. 148 & xxxv (1840); *Schinz, Eur. Faun.* i. p. 261 (1840); *Benoit, Orn. Sic.* p. 32 (1840); *Cara, Orn. Sard.* p. 89 (1842); *Schleg. Rev. Crit.* p. 1 (1844); *V. d. Mühle, Orn. Griechenl.* p. 30 (1844); *Gray, Gen. B.* ii. p. 435 (1845); *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 326; *Bp. Consp. Gen. Av.* i. p. 134 (1850); *Reichenb. Scans. Picinæ*, p. 364, no. 842, pl. dcxxxiii. figs. 4210–11 (1854); *Licht. Nomencl. Av.* p. 75 (1854); *Bolle, J. f. O.* 1854, p. 462; *Bp. Consp. Volucr. Zygod.* p. 8, no. 55 (1854); *Brehm, Vogelf.* 1855, p. 69; *Sundev. Sv. Fogl.* p. 140, pl. xxiii. figs. 1 ♂ ad., 2 juv. (1856); *Hewits. Eggs Brit. B.* i. p. 240 (1856); *Schrenck, Amur-Reise*, p. 263 (1859); *Jaub. & Barth.-Lapomm. Rich. Orn.* p. 330 (1859); *Von Wright, Finl. Fogl.* p. 272 (1859); *Linderm. Vög. Griechenl.* p. 42 (1860); *Malh. Picidæ*, i. p. 56, pl. xvi. figs. 4, 6, 7, 8 (1861); *Gould, B. Gt. Brit.* iii. pl. lxx. (1863), pl. lxxi. (juv.), under *P. leuconotus*; *Prev. & Lem. Hist. Nat. Ois. d Eur.* p. 168 (1864); *Salvad. Ucc. Sard.* p. 32 (1864); *Filippi, Viagg. Pers.* p. 350 (1865); *More, Ibis*, 1865, p. 135; *Lilf. op. cit.* 1866, pp. 385, 388; *Sundev. Consp. Av. Picin.* p. 21 (1866); *Smith, Ibis*, 1868, p. 448; *Gray, List Picid. Brit. Mus.* p. 32 (1868); *Borggr. Vogelf. Norddeutschl.* p. 68 (1869); *Gray, Hand-l. B.* ii. p. 181, no. 8541 (1870); *Dress. B. Eur.* v. p. 19, pl. ccIxxv. (1871); *R. Gray, B. W. Scotl.* p. 190 (1871); *Godm. Ibis*, 1872, p. 168; *Hart. Handb. Brit. B.* p. 32 (1872); *Elw. P. Z. S.* 1873, p. 649; *Brooke, Ibis*, 1873, p. 235; *Perini, Man. Orn. Veron.* p. 402 (1874); *Cord. Ibis*, 1875, p. 184; *Danf. & Harv.-Br. t. c.* p. 299; *Severtz. t. c.* pp. 488, 489; *Irby, Orn. Str. Gib.* p. 70 (1875); *Saund. Bull. Soc. Zool. Fr.* 1876, p. 324; *Dress. Ibis*, 1876, p. 320; *D'Hamonv. Cat. Ois. d'Eur.* p. 10 (1876); *Tacz. Bull. Soc. Zool. Fr.* 1877, p. 152; *Schleg. Vog. Nederl.* i. p. 39, pl. v. figs 8–10 (1878); *Elw. Ibis*, 1880, p. 395; *Madar. Syst. Aufz. Vög. Ungarns*, p. 23 (1881); *Seeb. Ibis*, 1882, p. 209; *Marsch. & Pelz. Orn. Vindob.* p. 91 (1882); *Carls. Kongl. Vet.-Akad. Förhandl.* 1882, i. p. 31; *Bolau, J. f. O.* 1882, p. 337; *Martor. Ucc. Sard.* p. 23 (1884); *Russow, Arch. Naturk. Liv- Esth. u. Kurl.* ix. p. 116 (1884); *Radde, Orn. Cauc.* p. 309,

pl. xix. fig. 1 (1884); *Seeb. Hist. Brit. B.* ii. p. 354 (1884); *Chapm. Ibis*, 1885, p. 172; *Gigl. Avif. Ital.* p. 200 (1886); *Tacz. P. Z. S.* 1888, p. 466.

Dendrocopos major, *Koch, Syst. baier. Zool.* i. p. 72 (1816).

Dryobates major, *Boie, Isis*, 1828, p. 326; *Gray, List Gen. B.* 1855, p. 91; *Gigl. Ibis*, 1865, p. 58.

Picus pinetorum, Picus pityopicus, Picus frondium, Picus montanus, } *Brehm, Vög. Deutschl.* pp. 187–189 (1831); *id. Vogelf.* p. 69 (1855).

Dendrocopus major, *Swains. Classif. B.* ii. p. 307; *Jard. Nat. Lib.* x. p. 351 (1839); *Cab. & Heine, Mus. Hein.* iv. p. 32 (1863); *Irby, Ibis*, 1883, p. 178; *B. O. U. List*, 1883, p. 77; *Clarke, Ibis*, 1884, p. 144; *Saund. t. c.* p. 379; *Whiteh. op. cit.* 1885, p. 28; *More, List Irish Bds.* p. 16 (1885); *Tait, Ibis*, 1887, p. 304; *Reid, op. cit.* 1888, p. 74.

Picus pipra (*non Pall.*), *Macgill. Brit. B.* iii. p. 80 (1840).

Picus brevirostris, *Reichenb. Scans. Picinæ*, p. 365, sub no. 842, pl. dcxxxiii. fig. 4212 (1854).

Picus leucorum, Picus sordidus, } *Brehm, Vogelf.* p. 69 (1855).

Picus numidicus (*non Malh.*), *Bolle, J.f. O.* 1857, p. 320 *.

Adult male. Back, rump, and upper tail-coverts uniform blue-black; scapulars slightly smoky white; wings and their coverts black, the innermost of the median and of the greater series of the latter white, the quills (except the innermost which are uniform) spotted with white on both webs, the spots on the primaries, when the wing is closed, forming five bars; shafts black; the four central tail-feathers uniform black, the next feather black spotted with white on the apical portion, the two outer large feathers on either side black at the base, the apical half white barred with black; shafts of the same colour as the surrounding web; nasal plumes black; frontal band drabby brown; crown, nape, and hind neck blue-black, the occiput red; sides of the face and neck white, the latter brownish, a broad black malar stripe extending on to the side of the chest, and a branch from it joining the nape; from the chin to the breast (both inclusive) uniform drabby brown; the abdomen, vent, and under tail-coverts as well as the thighs crimson, the short tibial plumes of the same colour as the underparts; under wing-coverts and axillaries white, the lower series of the former spotted with dusky black. Total length 10 inches, culmen 1·1, wing 5·5, tail 3·7, tarsus 1; toes (without claws)—outer anterior 0·55, outer posterior 0·65, inner anterior 0·45, inner posterior 0·3.

Adult female. Wants the red occipital band, but in other respects resembles the adult male. Total length 9·5 inches, culmen 1·1, wing 5·6, tail 3·6, tarsus 1.

Young. May be known from the adult by their red crowns; the scapulars are striped and transversely varied with dusky or black;

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* The Canary Islands species, which is *D. major*.

the underparts duller and the flanks and thighs striped with dusky; the primaries tipped with white.

Hab. Throughout almost the whole of Europe, extends in Lapland to a little above 70° N. lat., and ranges through Southern Siberia to the Amour and into Corea. Found also in the Canaries *. In Asia Minor occurring south to Smyrna.

a. Juv. sk.	England.	Gould Coll.
b. ♀ ad. sk.	Wiltshire.	Montagu Coll.
c. Ad. st.	Cookham (*Briggs*).	R. B. Sharpe, Esq. [P.].
d. ♂ ad. et juv. sk.	Hendon, Middlesex.	Salvin-Godman Coll.
e. ♂ ad. sk.	Hampstead, Middlesex.	Salvin-Godman Coll.
f, *g*. ♂ ♀ ad. sk.	Essex.	Purchased.
h, *i*. ♂ ♀ ad.; *k*, *l*, *m*. Juv. st.	Norfolk.	Lord Walsingham [P.].
n. Ad. st.	Leicestershire.	Theodore Walker, Esq. [P.].
o. ♀ ad. sk.	Sweden.	Hume Coll.
p. Ad. sk.	Sweden.	Gould Coll.
q. ♂ ad. sk.	Stockholm, Nov.	Mr. Meves [C.].
r. ♀ ad. sk.	Wermland, Jan. 1872.	Mr. Meves [C.].
s. ♀ ad. sk.	Russia.	Purchased.
t. ♂ juv. sk.	N. Russia.	Tweeddale Coll.
u. ♂ ad.; *v*. ♂ juv. sk.	Archangel, Sept., Dec.	Hume Coll.
w, *x*. ♂ ad. sk.	Carlesruhe, Jan. 1871 (*R. G. W. R.*).	Tweeddale Coll.
y. ♀ ad. sk.	Leiden (*Keulemans*).	Tweeddale Coll.
z, *a'*. Juv. et pull. sk.	Belgium.	Brussels Mus.
b'. ♂ ad. sk.	Transylvania, May 1874.	C. G. Danford, Esq. [C.].
c'. ♂ ad. sk.	Constantinople (*T. Robson*).	Tweeddale Coll.
d'. ♂ ad. sk.	Turkey, March (*T. Robson*).	Hume Coll.
e'. ♂ ad. sk.	Turkey, Oct. (*T. Robson*).	R. B. Sharpe, Esq. [P.].
f'. ♂ ad. sk.	Turkey, April (*T. Robson*).	Tweeddale Coll.
g', *h'*, *i'*. ♀ ad. sk.	Asia Minor, Feb., April (*T. Robson*).	Tweeddale Coll.
k'. ♂ ad. sk.	Asia Minor, Jan. (*T. Robson*).	Salvin-Godman Coll.
l', *m'*. ♂ ♀ ad. sk.	Smyrna, Asia Minor (*Dr. Krüper*).	Tweeddale Coll.
n'. ♀ ad. sk.	Sardinia, April (*A. B. Brooke*).	R. B. Sharpe, Esq. [P.].
o'. ♂ ad. sk.	Oporto, Portugal, Feb. (*J. J. Forrester*).	Gould Coll.
p'. ♀ ad. sk.	Sierra Nevada, Spain, April (*H. Saunders*).	Tweeddale Coll.
q'. ♀ ad. sk.	Pulverilla, Gibraltar, March.	Colonel Irby [P.].
r', *s'*. ♂ ♀ ad. sk.	Villa Flora, Teneriffe, May 1871 (*F. D. Godman*).	Salvin-Godman Coll.
t', *u'*. Skulls.	S. Germany.	Dr. Günther.
v', *w'*, *x'*. Skulls.		Old Collection.

* The form inhabiting these islands is very dark below, but examples lighter in colour also occur.

Subsp. *a*. **Dendrocopus cissa.**

Picus cissa, *Pall. Zoogr. Rosso-Asiat.* i. p. 412 (1831); *Seeb. Ibis*, 1882, p. 423.
Picus major (pt.), *Reichenb. Scans. Picinæ*, p. 364, no. 842 (1854); *Math. Picidæ*, i. p. 56 (1861); *Sundev. Consp. Av. Picin.* p. 21 (1866).
Picus major (*non Linn.*), *Middend. Sib. Reise, Zool.* p. 132 (1851); *Tacz. Bull. Soc. Zool. Fr.* 1876, p. 239; *Finsch, Verhandl. k. k. zool.-bot. Gesellsch. Wien*, 1879, p. 227: *Tacz. Bull. Soc. Zool. Fr.* 1882, p. 395.
Picus major kamtschaticus, *Dyb. & Tacz. Bull. Soc. Zool. Fr.* 1883, pp. 146, 157; *Dyb. t. c.* p. 368.
Dendrocopus purus, *Stejn. Auk*, 1884, p. 35.
Dryobates purus, *Stejn. Bull. U. S. Nat. Mus.* no. 29 (1885), pp. 230, 342.

Adult male. Resembles *D. major*, but may be distinguished by its having the under surface of the body *pure white*, and also in having a greater amount of white on the lateral tail-feathers, the black bars being narrower. Total length 9 inches, culmen 1·22, wing 5·7, tail 3·6, tarsus 1·03; toes (without claws)—outer anterior 0·57, outer posterior 0·67, inner anterior 0·5, inner posterior 0·3.

Adult female. Differs from the adult male in the absence of the crimson occipital band, the occiput being black, like the crown. Total length 9 inches, culmen 1·1, wing 5·5, tail 3·55, tarsus 1.

Hab. Across Siberia, north of the Altai range to 60° lat. East into Kamtschatka and Behring Island *.

Subsp. *β*. **Dendrocopus pœlzami.**

Picus pœlzami, *Bogd. B. Cauc., Trans. Soc. Kazan*, viii. 4. p. 121 (1879), in Russian; *Seeb. Ibis*, 1882, p. 23; *Radde, Orn. Cauc.* p. 310, pl. xx., ♂ ♀ ad. (1884); *Dresser, Ibis*, 1889, p. 91.
Picus major pœlzami, *Seeb. P. Z. S.* 1884, p. 409.
Picus major (*non Linn.*), *Lorenz, Orn. Faun. Kaukasus*, p. 44 (1887).

Adult male. Resembles *D. major*, but is very much smaller and has the under surface of the body very dark brown, inclining to chocolate: the white patch on the wing-coverts is considerably less, owing to fewer of the inner coverts being white. Total length 8·5 inches, culmen 1·25, wing 4·97, tail 2·9, tarsus 0·95; toes (without claws)—outer anterior 0·52, outer posterior 0·6, inner anterior 0·48, inner posterior 0·3.

Adult female. Differs from the adult male in wanting the red

* The exact limits of the range of this species cannot be accurately given. They appear to be very much the same as those of *D. pipra*.

occipital band. Total length 8·3 inches, culmen 1·1, wing 4·63, tail 3·15, tarsus 0·88.

Young. Differ from the adult of both sexes in having the crown crimson, the red occipital band characteristic of the adult male is wanting and replaced by black; the general colour above of a sooty black, without any blue gloss; forehead dusky brown; a dusky stripe behind the eye, and including the upper half of the ear-coverts; sides of the face and neck smoky white; under surface of the body smoky brown, the sides of the body, flanks, and thighs having faint dusky striations; vent and under tail-coverts brick-red.

Hab. Caucasus.

a. ♀ ad. sk.	Lenkoran, December.	Henry Seebohm, Esq. [P.].

Subsp. γ. Dendrocopus leucopterus.

Picus (Dendrocopus) leucopterus, *Salvad. Atti R. Acc. Sc. Tor.* vi. p. 129 (1870–71).
Picus cabanisi (*non Malh.*), *Severtz. Trans. Imp. Soc. Nat. Hist.* viii. pt. 2, p. 68 (1873).
Picus leptorhynchus, var. leucoptera, *Severtz. Ibis*, 1875, p. 488; *id. Str. F.* 1875, p. 430.
Picus leptorhynchus, *Severtz. Str. F.* 1875, p. 430; *id. Ibis*, 1875, pp. 487–491; *Dresser, op. cit.* 1876, p. 320; *Menzb. op. cit.* 1885, p. 357.
Picus leucopterus, *Hume, Str. F.* 1875, p. 219; *Scully, op. cit.* 1876, p. 134; *Dress. Ibis*, 1889, p. 91.
Picus syriacus leucopterus, *Seeb. Ibis*, 1882, p. 423.

Adult male. Differs from *D. major* in having the frontal band, sides of the face and neck, and the under surface of the body pure white, the red extending much higher up and on to the lower breast; the scapulars pure white, and the quills crossed by very broad bars of white, the innermost secondaries having large spots of white not reaching to the shaft and confluent on the margin. Total length 9 inches, culmen 1·27, wing 4·95, tail 3·4, tarsus 0·87; toes (without claws)—outer anterior 0·55, outer posterior 0·63, inner anterior 0·5, inner posterior 0·3.

Young male. "Has the crown red" (*Severtzoff*).

Adult female. Wants the red occipital band, but is otherwise like the adult male. Total length 9 inches, culmen 1·12, wing 4·95, tail 3·45, tarsus 0·85.

Hab. Turkestan and Western Mongolia (Lob Nor).

a. ♀ ad. sk.	Turkestan, Jan. 1869 (*Dr. Severtzov*).	Tweeddale Coll.
b. ♂ ad. sk.	Kokand, March 14, 1869 (*Dr. Severtzov*).	Tweeddale Coll.
c. ♂ ad. sk.	Maralbashi, E. Turkestan, Jan. 1874 (*J. Biddulph*).	Hume Coll.
d. ♂ ad. sk.	Maralbashi, Jan. 1874 (*J. Biddulph*).	Tweeddale Coll.
e. ♂ ad. sk.	Yarkand, Nov. 28, 1874 (*J. Biddulph*).	Tweeddale Coll.

f. ♀ ad. sk.	Oi Tograh, Nov. 3, 1874 (*J. Biddulph*).	Tweeddale Coll.
g, *h*. ♂ ♀ ad. sk.	Khoten.	Rev. H. Lansdell [C.].

2. Dendrocopus japonicus.

Picus major (*non Linn.*), *Blakist. Ibis*, 1862, p. 325; *Whitely, op. cit.* 1867, p. 195; *Swinh. op. cit.* 1875, p. 451; *Blakist. & Pryer, op. cit.* 1878, p. 228; *Seeb. op. cit.* 1879, p. 29; *Blakist. & Pryer, Trans. As. Soc. Jap.* 1880, p. 207, 1882, p. 132.

Picus japonicus, *Seeb. Ibis*, 1882, p. 24.

Picus major japonicus, *Blakist. Chrysanth.* 1883, pp. 28, 77, no 167; *Jouy, Proc. U. S. Nat. Mus.* 1883, p. 307; *Blakist. Amend. List B. Jap.* pp. 13, 44 (1884).

Dryobates gouldii (*non Malh.*), *Stejneger, Proc. U.S. Nat. Mus.* 1886, p. 112.

Adult male. Resembles *D. major*, but differs in having the under surface of the body and the frontal band more of a buff colour; the apical half of the lateral tail-feathers is also of a pale buff and the black bars are narrower; the scapulars have more black at the base, and the innermost of the secondaries are spotted with white; the dimensions are also less. Total length 8·5 inches, culmen 1·2, wing 5·3, tail 3·3, tarsus 0·95; toes (without claws)—outer anterior 0·55, outer posterior 0·65, inner anterior 0·47, inner posterior 0·3.

The points of distinction between the adults of this species and those of *D. major* may appear trifling, but that they are not the same is clearly proved by the young of the two species being totally different.

Adult female. Wants the red occipital band, but is otherwise like the adult male. Total length 8·3 inches, culmen 1·1, wing 5·15, tail 3·25, tarsus 0·93.

Young. Differ from the adult of both sexes in having the crown red, the light portion of the plumage less pure, the chin, throat, and fore neck thinly covered with dusky spots, the under surface of the body (except the middle of the breast and abdomen) smoky brown, the sides of the chest and breast striped, the remainder with dusky blackish transverse markings; the vent and under tail-coverts of a pale washed-out red, the tips of the primaries white.

Hab. The Main Island of Japan, Yezo, and the Kuriles.

a, *b*. ♂ ♀ ad. sk.	Japan.	Tweeddale Coll.
c. ♀ ad. sk.	Japan.	C. Maries, Esq. [P.].
d. ♀ ad. sk.	Yezo, Japan (*C. McVean*).	Tweeddale Coll.
e. ♂ ad.; *f*. ♀ imm. sk.	Hakodadi, Japan, Oct. Nov.	Mr. H. Whitely [C.].
g, *h*. ♂ ♀ ad. sk.	Hakodadi, Nov., Dec. (*H. Whitely*).	Gould Coll.
i. ♂ ad. sk.	Hakodadi.	Sir O. St. John [C.].

3. Dendrocopus mauritanus.

Picus mauritanus s. Picus lunatus, *Brehm, Naum.* 1855, p. 274.

Picus numidicus (*non Malh.*), *Reichenb. Scans. Picinæ*, p. 366,

no. 844, pl. dcxxxiii. figs. 4213–14, ♂ ♀ (1854), Hab. partly; *Tyrw.-Drake, Ibis*, 1867, p. 425; *Irby, Orn. Str. Gibr.* p. 71 (1875); *id. Ibis*, 1879, p. 343.

Picus numidicus (partim), *Sundev. Consp. Av. Picin.* p. 22 (1886); *Sharpe & Dress. B. Eur.* v. p. 33 (1871).

Adult male. Resembles *D. numidicus*, but may be distinguished by the black stripes which border the throat and fore neck and extend on to the sides of the chest, not uniting or forming a complete crescentic band, the central chest-feathers being of the same colour as the under surface of the body, but tipped with scarlet; a few of the black feathers on the chest have their tips buffy white washed with scarlet, but the latter colour is confined (on the chest) to the buffy-white feathers or portions of the feathers and does not spread on to the black as is the case in *D. numidicus*, the latter species having a broad and complete crescentic band of black across the chest, the feathers composing it being conspicuously tipped with crimson. In *D. mauritanus* the lateral tail-feathers are much more broadly and distinctly barred with black; the bill and legs are also less powerful. Total length 7·8 inches, culmen 1·1, wing 4·7, tail 2·8, tarsus 0·8; toes (without claws)—outer anterior 0·46, outer posterior 0·55, inner anterior 0·45, inner posterior 0·28.

Adult female. Differs from the adult male in wanting the red occipital band. Total length 7·8 inches, culmen 1·1, wing 4·65, tail 3, tarsus 0·8.

Hab. Morocco.

a, b. ♂ ♀ ad. sk.	Tangiers.	Colonel Irby [P.].
c. ♀ imm. sk.	Morocco.	Tweeddale Coll.

4. Dendrocopus numidicus.

Picus numidus, *Malh. Mém. Acad. Metz*, 1842, p. 242; *id. Faun. Orn. Sicil.* 1843, p. 144; *Gray, Gen. B.* ii. p. 435 (1845).

Picus (Leuconotopicus) numidicus, *Malh. Rev. Zool.* 1845, p. 375; *id. Cat. Rais. d'Ois. d'Algér.* p. 15 (1846).

Picus numidicus, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 327; *Gray, Gen. B.* iii. *App.* p. xxi (1849); *Bp. Consp. Gen. Av.* i. p. 135 (1850); *id. Consp. Volucr. Zygod.* p. 8, no. 56 (1854); *Loche, Cat. Mamm. et Ois. d'Algér.* sp. 189, p. 92 (1858); *Tristr. Ibis*, 1859, pp. 157, 159; *Salv. t. c.* p. 315; *Tristr. op. cit.* 1860, p. 373; *Malh. Picide*, i. p. 65, pl. xviii. figs. 1–3 ♂ ♀ ad., ♂ juv. (1861), Hab. partly; *Altum*, J. f. O.* 1862, p. 382; *Loche, Expl. Sci. Algér., Ois.* ii. p. 79, pl. ix. figs. 1 ♂ ad., 1*a* juv. (1867); *Gray, List Picid. Brit. Mus.* p. 34 (1868); *id. Hand-l. B.* ii. p. 182, no. 8547 (1870); *Sharpe & Dresser, B. Eur.* v. p. 33, pl. cclxxvi. ♂ ♀ ad. & juv. (1871).

Dendrocopus numidicus (pt.), *Cab. & Heine, Mus. Hein.* iv. p. 34 (1863).

Picus numidicus (partim), *Sundev. Consp. Av. Picin.* p. 22 (1866).

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* Recorded from Œlde, Münster, Germany. A very improbable locality for this African species.

Adult male. Differs from *D. major* in the black stripes which border the throat and chest uniting upon the latter and forming a broad gorget, the tips of the feathers of the latter being crimson; the exposed white spots on the primaries (when the wing is closed) forming four bars. Total length 8·5 inches, culmen 1·4, wing 4·9, tail 3·2, tarsus 1; toes (without claws)—outer anterior 0·63, outer posterior 0·75, inner anterior 0·52, inner posterior 0·3.

Adult female. Differs from the adult male in wanting the red occipital band. Total length 8·5 inches, culmen 1·2, wing 5, tail 3·2, tarsus 0·85.

Young male. Differs from the adult of both sexes in having the whole of the crown crimson, the tips of the feathers being of this colour, the bases dark leaden grey, and a median spot of black; frontal band very dark smoky brown; space behind the eye, also the upper ear-coverts, dusky brown; the black portion of the plumage of a sooty colour and not blue-black; the underparts whiter, and having (in addition to the black and red chest-band) a few blackish stripes on the sides of the breast; under tail-coverts pale scarlet, this colour not spreading on to the vent, abdomen, or thighs.

Hab. Algeria.

a. ♀ ad. st.	Algiers.	Purchased.
b. ♂ ad.; *c*. ♂ juv. sk.	Algeria.	Purchased.
d. ♂ ad. sk.	Algeria, April 1857 (*H. B. Tristram*).	Tweeddale Coll.
e. ♀ ad. sk.	Djebel Dekma, Prov. of Constantine, Algeria, April (*O. Salvin*).	Salvin-Godman Coll.
f. Sternum.	Algeria.	

5. Dendrocopus cabanisi.

Picus cabanisi, *Malh. J. f. O.* 1854, p. 172; *Bp. Consp. Volucr. Zygod.* p. 8, no. 58 (1854); *Reichenb. Scans. Picinæ*, p. 365, no. 843, pl. delxxix. figs. 4487–88, ♂ ♂ (1854); *Gould, B. Asia*, vi. pl. xvii. ♂ ♀ ad. (1857); *Malh. Picidæ*, i. p. 60, pl. xvii. figs. 1–2, ♂ ♀ (1861); *Swinh. Ibis*, 1861, p. 267; *Sundev. Consp. Av. Picin.* p. 22 (1866); *Gray, List Picid. Brit. Mus.* p. 33 (1868); *id. Hand-l. B.* ii. p. 181, no. 8544 (1870); *Styan, Ibis*, 1887, p. 229.

Picus luciani, *Malh. in Mus. Paris*; *Bp. Consp. Volucr. Zygod.* p. 8, no. 60 (1854); *Malh. Mém. Soc. d'Hist. Nat. Moselle*, 1857, p. 2; *id. Picidæ*, i. p. 63, pl. xvii. fig. 4, ♂ (1861); *Sundev. Consp. Av. Picin.* p. 23 (1866); *Gray, List Picid. Brit. Mus.* p. 33 (1868); *id. Hand-l. B.* ii. p. 182, no. 8551 (1870).

Picus mandarinus, *Malh. Bull. Soc. d'Hist. Nat. Moselle*, 1857, p. 17; *id. Picidæ*, i. p. 61, pl. xvii. figs. 8–9, ♂ ♂ ad. (1861); *Swinh. P. Z. S.* 1863, p. 88; *Sundev. Consp. Av. Picin.* p. 22 (1866); *Gray, List Picid. Brit. Mus.* p. 33 (1868); *id. Hand-l. B.* ii. p. 181, no. 8542 (1870); *Swinh. Ibis*, 1870, p. 94; *id. P. Z. S.* 1871, p. 391; *id. Ibis*, 1874, p. 425, 1875, p. 123; *David & Oust. Ois. Chine*, p. 47 (1877); *Seeb. Ibis*, 1884, p. 86; *Hume, Str. F.* xi. p. 56 (1888).

Picus major?, *Swinh. Ibis*, 1861, p. 46.

Large Pied Woodpecker (Picus cabanisi?), *Swinh. Ibis*, 1861, p. 339, 1863, p. 96.

Picus gouldi, *Malh. Picidæ*, i. p. 62, pl. xvii. figs. 6, 7, ♂ ♀ (1861); *Sundev. Consp. Av. Picin.* p. 22 (1866); *Gray, List Picid. Brit. Mus.* p. 33 (1868); *id. Hand-l. B.* ii. p. 181, no. 8543 (1870).
Dendrocopus cabanisi, *Cab. & Heine, Mus. Hein.* iv. p. 34 (1863).
Dendrocopus mandarinus, *Cab. & Heine, Mus. Hein.* iv. p. 34 (1863).
Dendrocopus gouldi, *Cab. & Heine, Mus. Hein.* iv. p. 35 (1863).
Dendrocopus luciani, *Cab. & Heine, Mus. Hein.* iv. p. 36 (1863).
Picus manderinus, var., *Godw.-Aust. J. A. S. B.* 1876, p. 194.

Adult male. Resembles *D. major*, but may at once be distinguished by its black scapulars and tawny brown ear-coverts; the under surface of the body is generally of a darker and tawny brown, and the feathers between the extremities of the black stripes, which border the throat and extend on to the chest, are tipped with red; the under wing-coverts are more conspicuously spotted with black. Total length 9·3 inches, culmen 1·2, wing 5, tail 3, tarsus 0·93; toes (without claws)—outer anterior 0·6, outer posterior 0·68, inner anterior 0·5, inner posterior 0·3.

Adult female. Wants the red occipital band, but is otherwise like the adult male. Total length 9·3 inches, culmen 1·05, wing 4·95, tail 3, tarsus 0·93.

Young. In both sexes, before the autumn moult, the crown is red; the young have also the primaries conspicuously tipped with white; the underparts duller and the flanks and thighs with some dusky striations; the abdomen, vent, and under tail-coverts of a washed-out brick-red colour.

I consider the birds bearing the titles *P. cabanisi*, *P. mandarinus*, *P. gouldii*, and *P. luciani* to be one and the same in more or less different plumages, depending upon age, season, or climate. Northern examples have the white spotting more developed and sometimes tipping the lower scapulars. Varieties occur: I have seen a male from the Min River, obtained December 12th, in which the rump is crossed by white bars, or spots having a barred character; the scapularies were also considerably varied with white. This example is mentioned by Mr. Styan in the 'Ibis' for 1887, p. 229.

Hab. Throughout China, in the north extending into Western Kansu, and ranging south-west into Manipur *.

a. Juv. sk.	Pekin.	Purchased.
b. ♀ ad. sk.	Ichang, N. China, May 1888.	Mr. Pratt [C.].
c. ♀ ad. sk.	Shanghai.	India Museum.
d, *e*. ♂ ♀ ad. sk.	Shanghai (*J. R. Reeves*).	Gould Coll.
f, *g*. ♂ ad. sk.	Ningpo.	Tweeddale Coll.
h, *i*. ♂ ♀ ad. sk.	Chekiang (*Shanghai Museum*).	Tweeddale Coll.
k, *l*. ♀ ad. sk.	Fokien.	Gould Coll.
m, *n*. ♂ ♀ ad. sk.	Canton.	Tweeddale Coll.

* Dr. Stejneger (Proc. U. S. Nat. Mus. 1886, p. 110) has stated that in the Main Island of Japan a species is found which has black scapulars and the underparts uniform (thereby resembling the Chinese *D. cabanisi*), and which he provisionally named *Dryobates gouldii*. I have reasons for believing that Dr. Stejneger is no longer of the same opinion, and I am glad to think that this is so.

6. Dendrocopus himalayensis.

Picus himalayensis, *Jard. & Selby, Ill. Orn.* iii. pl. cxvi. ♂ (c. 1835); *Blyth, J. A. S. B.* 1845, p. 196; *Bp. Consp. Gen. Av.* i. p. 136 (1850); *id. Consp. Volucr. Zygod.* p. 8, no. 59 (1854); *Malh. Picidæ*, i. p. 67, pl. xix. figs. 3 ♂ ad. & ♂ juv., 4 ♀ ad. (1861); *Sundev. Consp. Av. Picin.* p. 22 (1866); *Pelz. Ibis*, 1868, p. 319; *Gray, List Picid. Brit. Mus.* p. 33 (1868); *id. Hand-l. B.* ii. p. 181, no. 8545 (1870); *Wardl.-Rams. Ibis*, 1880, p. 50; *Bidd. Str. F.* 1880, p. 313; *Scully, op. cit.* 1881, x. p. 101; *Bidd. Ibis*, 1881, p. 48; *Scully, t. c.* p. 429; *Marshall, op. cit.* 1884, p. 410.

Dendrocopus himalayanus, *Vigne, P. Z. S.* 1841, p. 6.

Picus himalayanus, *Gray, Gen. B.* ii. p. 435 (1845); *Blyth, J. A. S. B.* 1847, p. 466; *id. Cat. B. Mus. As. Soc.* p. 62 (1849); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 670 (1856–58); *Leith-Adams, P. Z. S.* 1858, p. 475, 1859, p. 173; *Irby, Ibis*, 1861, p. 229; *Jerd. B. Ind.* i. p. 269 (1862); *Cock & Marshall, Str. F.* 1863, p. 350; *Brooks, Ibis*, 1869, p. 47; *Beavan, t. c.* p. 412; *Jerd. op. cit.* 1872, p. 6; *Hume & Henders. Lahore to Yark.* p. 179 (1873); *Brooks, Str. F.* 1875, p. 232; *Wardl.-Rams. Ibis*, 1879, p. 447.

Picus himalaiensis, *Reichenb. Scans. Picinæ*, p. 366, no. 845, pl. dcxxxiii. figs. 4215-16, ♀ ♂ (1854).

Dendrocopus himalayensis, *Cab. & Heine, Mus. Hein.* iv. p. 36 (1863).

Dryobates himalayanus, *Tytler, Ibis*, 1868, p. 201.

Adult male. Resembles *D. major*, but differs in having the scapulars black; the top of the head and the occiput crimson, and the lower breast, abdomen, flanks, and thighs strongly fulvescent, the red being confined to the vent and under tail-coverts: "legs and feet plumbeous brown; bill brown, pale at base of lower mandible; irides red-brown" (*A. O. Hume*). Total length 9·9 inches, culmen 1·35, wing 5·3, tail 3·35, tarsus 0·95; toes (without claws)—outer anterior 0·55, outer posterior 0·65, inner anterior 0·5, inner posterior 0·33.

Young male. Is very like the adult of the same sex, but has the red on the top of the head more restricted, and not spreading on to the occiput; the primaries are tipped with white; there is much more white on the lateral tail-feathers, the outer webs being almost without spot or bar; the under surface of the body is duller and very slightly tinged with yellow, and the feathers have faint dusky tips; the feathers of the thighs have faint dusky bars.

Adult female. Differs from the adult male in having the crown and occiput black. Total length 9·4 inches, culmen 1·2, wing 5, tail 3·25, tarsus 0·9.

Hab. Kumaon to Cashmere, north to Gilgit and ranging into North-eastern Afghanistan.

a. ♀ ad. sk.	Afghanistan (*Griffith*).	India Museum.
b, c. ♂ ad.; *d.* ♂ juv. sk.	Byan Kheyl, May 1879 (*R. G. W. R.*).	Tweeddale Coll.
e. ♀ ad. sk.	Peshawar, Jan. 1877.	Colonel Way [P.].

f, *g*. ♂ ♀ ad.; *h*. Juv. sk.	Cashmere.	R. Bowdler Sharpe, Esq. [P.].
i. ♂ ad. sk.	Cashmere.	E. M. Langworthy, Esq. [P.].
k. ♀ ad.; *l*. Juv. sk.	Cashmere (*T. C. Jerdon*).	Tweeddale Coll.
m, *n*. ♂ ♀ ad. sk.	Cashmere May 1876 (*J. Biddulph*).	Hume Coll.
o. ♂ imm.; *p*, *q*. Juv. sk.	Cashmere (*Dr. Bellew*).	India Museum.
r, *s*. ♂ ♀ ad. sk.	Goond, Cashmere, May, June (*W. E. Brooks*).	Hume Coll.
t. ♀ ad. sk.	Hirpore, May 13, 1871 (*W. E. Brooks*).	Hume Coll.
u. ♂ ad. sk.	Bhaggee, Bussahir, Sept. 17 1869.	Hume Coll.
v. ♂ ad. sk.	Koteghur.	Hume Coll.
w, *x*. ♂ ♀ ad.; *y*. Juv. sk.	Simla, July, Aug. (*R. C. Beavan*).	Tweeddale Coll.
z–*k'*. ♂ ad.; *l'*–*q'*. ♀ ad. sk.	Simla, Aug., Sept., Oct., Nov. (*W. Davison*).	Hume Coll.
r'. ♂ ad. sk.	Masuri (*A. Singer*).	Edward Hargitt, Esq. [P.]. (Type of species.)
s', *t'*. ♂ ad.; *u'*, *v'*, *w'*. ♀ ad. sk.	Masuri.	Hume Coll.
x'. ♀ ad. sk.	Masuri (*S. Pinwill*).	Tweeddale Coll.
y', *z'*, *a''*. ♂ ad.; *b''*. ♂ imm. sk.	Masuri.	Pinwill Coll.
c''. ♂ ad. sk.	Valley of the Bhagaratti, May 1874 (*W. E. Brooks*).	Hume Coll.
d''. ♀ ad. sk.	Kumaon, Oct. 24, 1886.	Hume Coll.
e'', *f''*. ♂ ad. sk.	Kumaon (*Strachey*).	India Museum.
g'', *h''*. Juv. sk.	Binsur, Almorah, June, Aug.	Hume Coll.
i'', *k''*. ♂ ad.; *l''*. ♀ ad. sk.	Naini Tal, Sept., Oct.	Hume Coll.

7. Dendrocopus darjilensis.

Picus (Dendrocopus) himalayanus (*non Jard. & Selby*), *Blyth, J. A. S. B.* 1842, p. 165.

Dendrocopus majoroides, *Hodgs. in Gray's Zool. Misc.* 1844, p. 85 (nomen nudum).

Picus (Dendrocopus) darjellensis, *Blyth, J. A. S. B.* 1845, p. 196.

Picus majoroides, *Gray, Cat. Mamm. &c. Nepal. pres. Hodgs.* pp. 115, *App.* 155 (1846); *Horsf. & Moore, Cat. E. Mus. E. I. Co.* ii. p. 671 (1856–58); *Malh. Picidæ*, i. p. 70, pl. xvi. figs. 1-2, ♂ ♀ (1861); *Jerd. B. Ind.* i. p. 270 (1862); *Gray, Cat. Mamm. &c. Nepal pres. Hodgs.* 1863, p. 62; *Beavan, Ibis*, 1865, p. 410; *Gray, List Picid. Brit. Mus.* p. 34 (1868); *Bulg. Ibis*, 1869, p. 156; *Gray, Hand-l. B.* ii. p. 182, no. 8549 (1870); *Swinh. P. Z. S.* 1871, p. 391; *Jerd. Ibis*, 1872, p. 7; *Wald. op. cit.* 1876, p. 344; *Scully, Str. F.* 1879, pp. 244, 365.

Picus darjellensis, *Blyth, J. A. S. B.* 1847, p. 466; *id. Ann. N. Hist.* 1847, p. 321; *id. Cat. E. Mus. As. Soc.* p. 62 (1849); *Gray, Gen. B.* iii. *App.* p. xxi (1849); *Bp. Consp. Gen. Av.* i. p. 136 (1850); *Reichenb. Scans. Picinæ*, p. 367, no. 847, pl. dcxxxiv. figs. 4219–20, ♂ ♂ (1854).

Hypopicus darjellensis, *Bp. Consp. Volucr. Zygod.* p. 8, no. 64 (1854).
Dendrocopus darjeelensis, *Cab. & Heine, Mus. Hein.* iv. p. 36 (1863).
Picus darjilensis, *Sundev. Consp. Av. Picin.* p. 23 (1866).
Picus desmursi *, *Verr. N. Arch. du Mus.* vi. *Bull.* 7. p. 33 (1870); *id. op. cit.* vii. p. 25, pl. i. figs. 1 ♂, 2 ♀ (1871); *Elwes, P. Z. S.* 1873, p. 665; *Swinh. t. c.* p. 689; *David & Oust. Ois. Chine*, p. 47 (1877).

Adult male. Resembles *D. cathpharius*, but is very much larger and differs in the following points:—the side of the neck is never crossed by a patch or band of red extending from the nape, and is of a golden buff, and with, at most, the tips only of the feathers orange or slightly reddish; the chin-angle is not varied with black; the thighs are barred with black, and the vent and under tail-coverts are bright scarlet. Total length 8·8 inches, culmen 1·35, wing 5·05, tail 3·15, tarsus 1; toes (without claws)—outer anterior 0·6, outer posterior 0·7, inner anterior 0·55, inner posterior 0·35.

Adult female. Differs from the adult male in wanting the red occipital band. Total length 8·5 inches; culmen 1·3, wing 5·15, tail 3·3, tarsus 0·9.

Young. Have the feathers of the crown and occiput tipped with scarlet, sometimes with an orange tinge, and occasionally the nuchal feathers are tipped with the same; the chin and upper throat striped with blackish brown; the primaries tipped with white.

Hab. Nepal, Sikhim, and through Southern Thibet to Moupin and Western Setchuan.

a. ♂ ad. sk.	Himalayas.	Gould Coll.
b, *c*, *d*. ♂ ad.; *e*–*h*. ♀ ad. sk.	Nepal.	Hodgson Coll. (Types of the species.)
i–*m*. ♂ ad.; *n*. ♀ ad.; *o*. ♂ imm. sk.	Nepal (*B. H. Hodgson*).	India Museum.
p. ♂ ad.; *q*. ♀ imm.; *r*. ♂ juv. sk.	Sheopuri Ridge, Nepal Valley, May 1878 (*J. Scully*).	Hume Coll.
s, *t*. Juv. sk.	Thibet, March (*L. Mandelli*).	Hume Coll.
u, *v*, *w*. ♂ ad.; *x*, *y*, *z*. ♀ ad.; *a'*. Juv. sk.	Native Sikhim, Jan., March, April, Sept. (*L. Mandelli*).	Hume Coll.
b'–*k'*. ♂ ad. et juv.; *l'*–*t'*. ♀ ad. sk.	Sikhim, Jan., Feb., March, April, June, Aug., Sept. (*L. Mandelli*).	Hume Coll.
u'–*y'*. ♂ ad. et imm.; *z'*, *a''*. ♀ ad. sk.	Darjeeling.	Hume Coll.
b'', *c''*. ♂ ♀ ad.; *d''*. ♀ imm. sk.	Darjeeling (*Pearson*).	India Museum.
e'', *f''*. ♂ ♀ ad.; *g''*. juv. sk.	Darjeeling.	Tweeddale Coll.
h''. Skeleton.	India.	

* I have carefully examined Verreaux's types and fail to find any specific character by which they can be separated from *D. darjilensis*.

8. Dendrocopus cathpharius.

Picus (Dendrocopus) cathpharius, *Blyth, J. A. S. B.* 1843, p. 1006.
Dendrocopus cathphorius, *Hodgs. in Gray's Misc.* 1844, p. 85; *id. Icon. Ined. in Brit. Mus.* no. 154 ♂ ♀ ad.
Picus cathpharius, *Blyth, J. A. S. B.* 1845, p. 196; *Gray, Gen. B.* ii. p. 435 (1845); *Blyth, Cat. B. Mus. As. Soc.* p. 63 (1849); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 673 (1856–58); *Jerd. B. Ind.* i. p. 271 (1862); *Gray, Cat. Mamm. &c. Nepal pres. Hodgs.* 1863, p. 63; *Beavan, Ibis*, 1865, p. 410; *Gray, List Picid. Brit. Mus.* p. 37 (1868); *id. Hand-l. B.* ii. p. 182, no. 8559 (1870).
Picus cathphorius, *Gray, Cat. Mamm. &c. Nepal pres. Hodgs.* 1846, p. 115; *Malh. Picidæ*, i. p. 104, pl. xxiii. figs. 7 ♂, 8 ♀ (1861).
Hypopicus cathphorius, *Bp. Consp. Volucr. Zygod.* p. 8, no. 63 (1854).
Picus cathphoricus, *Reichenb. Scans. Picinæ*, p. 377, no. 871, pl. dcxl. figs. 4267–68, ♂ ♀ (1854); *Sundev. Consp. Av. Picin.* p. 24 (1866).
Xylocopus cathpharius, *Cab. & Heine, Mus. Hein.* iv. p. 51 (1863).

Adult male. Back, rump, upper tail-coverts, and scapulars blue-black; wings and their coverts black, the innermost of the median and of the greater coverts white (except at the tip), this forming a conspicuous patch; the quills spotted with white on both webs; shafts blackish brown; tail black, the four central feathers uniform, the remainder barred with buff on more or less of the apical half; shafts of the same colour as the surrounding web; nasal plumes and frontal band buffy white, the former tipped with black; crown blue-black; occiput and nape scarlet, the hind neck black; sides of the face and neck fulvescent white, the neck crossed by a patch or band of red extending from the nape; chin buffy white, mixed with black at the angle, the throat and fore neck uniform buff, and a broad black malar stripe bordering these; entire underparts below the fore neck, also the under tail-coverts, fulvescent buff broadly striped with black (more densely so on the chest and breast), the central feathers of the chest and the under tail-coverts tipped with red; under wing-coverts white broadly striped with black, and a conspicuous black patch on the edge of the wing; axillaries fulvescent white. Total length 6·3 inches, culmen 0·8, wing 3·93, tail 2·45, tarsus 0·62; toes (without claws)—outer anterior 0·42, outer posterior 0·58, inner anterior 0·37, inner posterior 0·23.

Adult female. Wants the red nuchal band; the transverse patch on the side of the neck reddish buff instead of bright scarlet; the chest devoid of red. Total length 6·4 inches, culmen 0·7, wing 3·95, tail 2·5, tarsus 0·65.

Young. In the male the side of the neck is pale buff, a few of the feathers being tipped with orange or red; the side of the neck, in the female, is clear pale buff devoid of any reddish colour. The underparts in the young are very much less fulvescent.

Hab. South-east Himalayas, Nepal, Sikhim and Bhotan.

a. ♀ imm. sk.	Himalayas.	Gould Coll.
b. ♂ ad. sk.	Nepal.	Hodgson Coll.
c. ♂ ad.; *d*, *e*. Imm. sk.	Nepal (*B. H. Hodgson*).	India Museum.
f, *g*, *h*. ♂ ad.; *i*. ♀ ad. sk.	Native Sikhim, Jan., March, April, Aug. (*L. Mandelli*).	Hume Coll.
k–*s*. ♂ ad.; *t*–*c'*. ♀ ad. et imm. sk.	Sikhim, Jan., Feb., March, April, July, Aug., Oct., Nov., Dec. (*L. Mandelli*).	Hume Coll.
d'–*g'*. ♂ ad.; *h'*. ♀ ad. sk.	Darjeeling.	Hume Coll.
i'. ♀ ad.; *k'*. ♂ juv. sk.	Darjeeling.	Tweeddale Coll.
l'. ♀ imm. sk.	Darjeeling.	India Museum.
m', *n'*, *o*. ♂ ad. sk.	Bhotan (*Pemberton*).	India Museum.

9. Dendrocopus pyrrhothorax. (Plate IV.)

Picus pyrrhothorax, *Hume, Str. F.* x. p. 150 (1881); *id. op. cit.* xi. p. 57 (1888).

Adult male. Resembles *D. cathpharius*, but differs in being smaller, and in having the lores and sides of the face and neck pure white; the whole under surface of the body very much less fulvescent and with less black on the chest; the apical portion of the feathers of the fore neck and chest scarlet, this colour forming a conspicuous patch; the under tail-coverts not striped with black and more washed with red; the greater wing-coverts having in addition to the two white spots on the inner web a white spot near the base of the outer web, this being more or less exposed; the barring on the outer large tail-feather more developed; the bill smaller and narrower and of a leaden dusky, not horn colour: "legs and feet dull sap-green; claws horny dusky; bill leaden dusky, paler at base of lower mandible towards gonys; irides lac" (*Hume*). Total length 6·8 inches, culmen 0·75, wing 3·8, tail 2·4, tarsus 0·68; toes (without claws)—outer anterior 0·4, outer posterior 0·45, inner anterior 0·37, inner posterior 0·2.

Female (*fide Hume*). Resembles the adult male, the slight differences being that in the present sex the black stripes down the sides of the throat do not unite on the chest, and the black striations on the chest and breast are fewer and narrower; there is also a larger amount of white on the outer tail-feathers, the white bars being broader and more or less confluent with the spot nearer the base. "Legs and feet dusky lavender; claws brown; bill blackish horny, greyish at base of lower mandible; irides lac-red" (*A. O. Hume*). Total length 6·8 inches, culmen 0·7, wing 3·8, tail 2·4, tarsus 0·62.

It is very remarkable that in the present species, so closely allied to *P. cathpharius*, the female should not possess the same sexual distinction as the female of the latter. Mr. Hume sexed both specimens of his *P. pyrrhothorax*, which proved to be a male and a

female, and we cannot but accept his decision. The female example is evidently a fully adult bird.

Hab. Manipur (Aimole).

a, b. ♂ ♀ ad. sk.	Aimole, Manipur, April 1881 (*A. O. H.*).	Hume Coll. (Types of species.)

10. Dendrocopus pernyi.

Picus pernyi, *Verr. Rev. et Mag. de Zool.* 1867, p. 271; *Swinh. P. Z. S.* 1871, p. 392; *David & Oust. Ois. Chine*, p. 48 (1877).
Picus pernii, *Gray, Hand-l. B.* ii. p. 182, no. 8562 (1870).

Adult male. Differs from both *D. cathpharius* and *D. darjilensis* in having the broad black malar stripe which extends down the side of the throat and fore neck united on the chest to the corresponding stripe, and then running down the middle of the breast, and in the centre of the chest a large crimson patch or spot; the underparts are less fulvescent; the sides of the face and neck are uniform buffy white, the ear-coverts slightly smoky brown, the side of the neck wanting the orange-buff colour which is found in *D. darjilensis*, and the transverse red patch which is characteristic of *D. cathpharius*. The under wing-coverts are the same as in the latter species. "Irides red; bill greyish, the base of the lower mandible yellow; feet greenish; claws brown" (*David*). Total length 7·5 inches, culmen 0·8, wing 4·37, tail 2·9, tarsus 0·7; toes (without claws)—outer anterior 0·4, outer posterior 0·52, inner anterior 0·35, inner posterior 0·25.

Adult female. Differs from the adult male in wanting the red occipital band and in having rather less red upon the chest. Total length 6·5 inches, culmen 0·74, wing 4·12, tail 2·73, tarsus 0·7.

Hab. Western China (Setchuan to Kansu) and Eastern Thibet (Moupin).

a. ♂ ad. sk.	Kansu, N.W. China, Dec.	M. Berezowski [C.].

11. Dendrocopus syriacus.

Picus syriacus, *Hempr. & Ehrenb. Symb. Phys., Av.* dec. i. fol. r. note (1828); *Bp. Consp. Volucr. Zygod.* p. 8, no. 57 (1854); *Malh. Picidæ*, i. p. 95, pl. xx. fig. 4, juv. (1861); *Tristr. Ibis*, 1862, p. 279; *id. P. Z. S.* 1864, p. 432; *id. Ibis*, 1866, pp. 62, 283, 284; *Sundev. Consp. Av. Picin.* p. 23 (1866); *Tristr. Ibis*, 1868, p. 333; *Gray, List Picid. Brit. Mus.* p. 36 (1868); *id. Hand-l. B.* ii. p. 182, no. 8556 (1870); *Dress. & Blanf. Ibis*, 1874, p. 336; *Blanf. East. Pers.* ii. p. 130 (1876); *Danf. Ibis*, 1880, p. 88; *Salv. Cat. Strickl. Coll.* p. 386, no. 1883 (1882); *Tristr. Faun. & Flor. Palest.* p. 85 (1884); *Radde, Orn. Cauc.* p. 312, pl. xix. fig. 2, ♂ ad. (1884).
Picus major (*non Linn.*), *Strickl. P. Z. S.* 1835, p. 79.
Campethera syriaca, *Gray, Gen. B.* iii. *App.* p. xxi (1849).
Picus fuliginosus, *Licht. Nomencl. Av.* p. 75 (1854); *Reichenb. Scans. Picinæ*, p. 378, no. 872, pl. dcxl. figs. 4269 ♂ juv., 4270 ♀ juv. (1854).

Picus cruentatus (*non Bodd.*), *Antin. Naum.* 1856, pp. 411, 414, pl. ii. figs. 1 juv., 2 ♀ ad., 3 juv.
Picus feliciæ, *Malh. Picidæ*, i. p. 127, pl. xxviii. figs. 8 ♂ ad., 9 ♂ juv. (1861); *Sundev. Consp. Av. Picin.* p. 22 (1866); *Gray, List Picid. Brit. Mus.* p. 34 (1868); *id. Hand-l. B.* ii. p. 182, no. 8548 (1870).
Dendrocoptes syriacus, *Cab. & Heine, Mus. Hein.* iv. p. 42 (1863).
Dendrocopus feliciæ, *Cab. & Heine, Mus. Hein.* iv. p. 30 (1863).
Picus khan, *Filippi, Arch. Zool.* ii. p. 400 (1864); *id. Viagg. Pers.* p. 350 (1865); *Gray, List Picid. Brit. Mus.* p. 35 (1868); *id. Hand-l. B.* ii. p. 182, no. 8550 (1870).
Picus major (var.?), *Tristr. Ibis*, 1864, p. 230.

Adult male. Back, rump, and upper tail-coverts uniform black; scapulars white barred with black at the base; wings and their coverts black, the innermost of the median and of the greater coverts white, this forming a conspicuous patch, the innermost only of the secondaries uniform, all the remaining quills being spotted with white upon both webs; shafts dark brown; tail black, the outer large feather having a subapical bar of white, the next inner feather with a subapical white spot on each web; shafts black; nasal plumes and forehead buffy white, the former varied with black; crown, nape, and hind neck black, the occiput scarlet, this colour forming a band; sides of the face and neck, chin, throat, and underparts white with a buffy tinge, a black malar stripe extends down the side of the fore neck on to the side of the chest, a branch from it running on to the shoulders, the face and neck *not* crossed by a black stripe; the flanks and thighs striped with dusky black; the abdomen, vent, and under tail-coverts more or less strongly washed with scarlet; under wing-coverts and axillaries white, some of the former striped with dusky black. Total length 8·7 inches, culmen 1·3, wing 5·05, tail 3·05, tarsus 0·88; toes (without claws)—outer anterior 0·66, outer posterior 0·7, inner anterior 0·48, inner posterior 0·35.

Young male. Differs from the adult of both sexes in having the crown red, the occiput being black; some of the chest-feathers tipped with red, this colour being in the form of a crescent; there are also a few blackish striations on the side of the chest; the black portion of the plumage of a more sooty colour; the underparts pale buffy brown, the red on the abdomen, vent, and under tail-coverts more of a brick-red; the primaries tipped with white.

Adult female. Differs from the adult male in wanting the red occipital band, the occiput being black, like the crown and nape; the striations on the flanks and thighs are more marked. Total length 8·7 inches, culmen 1·22, wing 5·05, tail 3, tarsus 0·92.

Young female. Resembles the young male.

Hab. Asia Minor and south through Palestine to Hebron, and Western Persia south to Farsistan.

a. ♀ ad. sk.	Asia Minor Oct. 14, 1871 (*Dr. Krüper*).	Tweeddale Coll.
b. ♀ ad. sk.	Banias, Hermon.	Canon Tristram [P.].
c. ♂ ad. sk.	Lebanon.	Canon Tristram [P.].

d. ♀ ad. sk.	Near Plains of Esdraelon, March 18, 1864 (*H. B. Tristram*).	Salvin-Godman Coll.
e, *f*. ♀ ad. sk.	Persia.	C. Darwin, Esq. [P.].
g. ♂ juv. sk.	Persia, July 21, 1872.	W. T. Blanford [C.].
h. ♀ ad. sk.	Near Neyreez, S. Persia, Feb. 9, 1850 (*Keith Abbott*).	Gould Coll.
i. ♀ juv. sk.	Kohrud, N. of Ispahan, July 24, 1872.	W. T. Blanford, Esq. [P.].
k. ♂ ad. sk.	Shiraz, June 1870 (*Sir O. St. John*).	W. T. Blanford, Esq. [P.].
l. ♀ ad. sk.	Caspian (*Sir O. St. John*).	W. T. Blanford, Esq. [P.].

12. Dendrocopus scindeanus.

Picus assimilis, *Natt., Bp. Consp. Volucr. Zygod.* p. 8, no. 61 (1854); *Malh. Bull. Soc. d'Hist. Nat. Moselle*, 1857, p. 6; *id. Picidæ*, i. p. 69, pl. xix. figs. 1, 2, ♂ ♀ (1861); *Sundev. Consp. Av. Picin.* p. 23 (1866); *Gray, List Picid. Brit. Mus.* p. 34 (1868); *id. Hand-l. B.* ii. p. 181, no. 8546 (1870).

Picus scindeanus, *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 671 (1856–58); *Malh. Picidæ*, i. p. 73 (1861); *Sundev. Consp. Av. Picin.* p. 23 (1866); *Gray, Hand-l. B.* ii. p. 182, no. 8557 (1870); *Hume, Str. F.* 1873, p. 170.

Picus scindianus, *Jerd. B. Ind.* i. p. 273 (1862); *Gray, List Picid. Brit. Mus.* p. 36 (1868); *Hume, Ibis*, 1870, p. 579; *Jerd. op. cit.* 1872, p. 7; *Hume & Henders. Lahore to Yark. Nat. Hist.* p. 179, pl. ii. (1873); *Murray, Str. F.* vii. p. 111 (1878); *Scr. Doig, op. cit.* 1879, p. 370; *Sir O. B. St. John, Ibis*, 1889, p. 157.

Dendrocopus assimilis, *Cab. & Heine, Mus. Hein.* iv. p. 37 (1863).

Dendrocoptes scindeanus, *Cab. & Heine, Mus. Hein.* iv. p. 42 (1863).

Picus sindianus, *Blanf. East. Pers.* ii. p. 132 (1876); *Butl. Cat. B. Sind &c.* p. 18 (1879); *C. Swinh. Ibis*, 1882, p. 102.

Adult male. Back, rump, and upper tail-coverts black; scapulars white; wings and their coverts black, the innermost of the median and of the greater series of the coverts white, this forming a conspicuous patch, the quills spotted with white upon both webs; shafts dark brown; tail black, the four central feathers uniform, the next one tipped with white, the two outer large feathers on either side having their apical portion white barred with black; shafts black; nasal plumes and forehead buffy white; crown and occiput crimson; nape and hind neck black; sides of the face and neck and the underparts from the chin downwards white, the ear-coverts and the underparts more or less tinged with buff; the abdomen, vent, and under tail-coverts washed with scarlet; a black malar stripe borders the throat and extends to the side of the chest, and the thighs are faintly striped with black; under wing-coverts and axillaries white. Total length 8 inches, culmen 1·15, wing 4·7, tail 2·8, tarsus 0·8; toes (without claws)—outer anterior 0·5, outer posterior 0·56, inner anterior 0·43, inner posterior 0·28.

Adult female. Has the crown and occput black, but otherwise resembles the adult male. Total length 7·5 inches, culmen 1, wing 4·45, tail 2·65, tarsus 0·8.

Young. Resemble the male, but have the red on the head more of an orange-scarlet; the outer primaries tipped with white and some of the chest-feathers occasionally tipped with red.

Hab. Sindh, west to Bampur and Bahu Kelat, Persian Beluchistan; north into Afghanistan, Peshawar, and the Punjab.

a, b. ♂ ♀ ad. sk.	India.	Dr. Horsfield [P.].
c. ♀ ad. sk.	Khojak, March 4, 1881.	Colonel Swinhoe [P.].
d, e. ♂ ♀ ad.; *f.* ♀ juv. sk.	Khojak, Aug., Sept. (*Sir O. St. John*).	Hume Coll.
g. ♂ imm.; *h.* ♀ ad. sk.	Nal Kelat, May 3, 1877 (*O. T. Duke*).	Hume Coll.
i. ♂ ad. sk.	Bahu Kelat, Feb. 11, 1872.	W. T. Blanford, Esq. [P.].
k. ♀ ad. sk.	Bampur, April 8, 1870.	W. T. Blanford, Esq. [P.].
l, m. ♂ ♀ ad. sk.	Sindh.	Gould Coll.
n. ♂ ad. sk.	Sindh (*Dr. H. Gould*).	India Museum.
o. ♂ ad. sk.	Karachi, Feb. 18, 1877 (*W. T. Blanford*).	Hume Coll.
p, q, r. ♂ ad. et juv.; *s.* ♀ ad. sk.	Hydrabad, Feb., May, June (*E. A. Butler*).	Hume Coll.
t. ♂ ad. sk.	Sehwan, Jan. 25, 1872 (*A. O. H.*).	Hume Coll.
u, v. ♂ ♀ ad. sk.	Jacobabad, Nov., Dec. (*A. O. H.*).	Hume Coll.
w, x. ♂ ad.; *y, z.* ♀ ad. sk.	Dil-Moorad, Dec., 1871 (*A. O. H.*).	Hume Coll.
a′, b′. ♂ ♀ ad. sk.	Roree Dist., Nov., 1871 (*F. Day*).	Hume Coll.
c′, d′. ♂ ♀ ad. sk.	Mungranee, Sukkur, Jan., 1872 (*A. O. H.*).	Hume Coll.
e′, f′. ♂ ♀ ad. sk.	Sukkur, Dec., 1871 (*A. O. H.*).	Hume Coll.
g′, h′. ♂ ♀ ad. sk.	Shikarpur (*Griffith*).	India Museum. (Types of the species.)
i′, k′. ♂ ♀ ad. sk.	Shikarpur, Jan., 1872 (*A. O. H.*)	Hume Coll.
l′. ♀ ad. sk.	Mithenkote, Dec. 13, 1871 (*A. O. H.*).	Hume Coll.
m′. ♂ ad. sk.	Banks of Jhelum, April 8, 1870.	Hume Coll.
n′. ♂ ad. sk.	Murree.	Colonel Way [P.].
o′, p′. ♂ ad.; *q′.* ♀ ad. sk.	Lawrencepore, Feb., March (*R. G. W. R.*).	Tweeddale Coll.
r′. ♀ ad. sk.	Peshawar, Feb., 1869.	Hume Coll.
s′, t′. ♂ ad. sk.	Salt Range, Nov. (*T. C. Jerdon*).	Tweeddale Coll.
u′. ♀ ad. sk.	Urnecwalla, Sirsa, Feb. 4, 1870 (*A. O. H.*).	Hume Coll.

13. **Dendrocopus arizonæ.**

Picus stricklandi (pt.), *Malh. Picidæ*, i. p. 108 (descr. of ♂ ad., and pl. xxviii. fig. 4, ♂ ad. taken from specimen of *D. arizonæ* in Brit. Mus.) (1861); *Sundev.* (*ex Malh.*) *Consp. Av. Picin.* p. 20 (1866).

Picus stricklandi (*non Malh.*), *Gray, List Picid. Brit. Mus.* p. 37 (1868); *id. Hand-l. B.* ii. p. 182, no. 8560 (1870); *Henshaw, U. S. Geogr. Surv. W. of* 100*th Merid.* 1875, p. 389; *Ridgw. Proc. U. S. Nat. Mus.* 1880, pp. 189, 219, 233, no. 365; *Coues, Check-*

list N. Amer. B. p. 77, no. 437 (1882); *Brewster, Bull. Nutt. Orn. Club*, viii. p. 22 (1883); *Coues, Key N. Amer. B.* 2nd ed. 1884, p. 482; *Brewst. Auk*, 1885, p. 199.
Dryobates stricklandi (*non Malh.*), *Scott, Auk*, 1886, p. 426; *A. O. U. Check-list N. Amer. B.* p. 213, no. 398 (1886).
Picus arizonæ, *Hargitt, Ibis*, 1886, p. 115.
Dryobates arizonæ, *Ridgw. Man. N. Amer. B.* p. 286 (1887).
Dryobates arizonæ fraterculus, *Ridgw. Man. N. Amer. B.* p. 286 (1887).

Adult male. Differs from *D. stricklandi* of Malherbe (Rev. Zool. 1845, p. 373) in having the upper parts perfectly uniform and of a lighter brown colour, the dark markings on the underparts being rounded and drop-like spots. Total length 8 inches, culmen 1·15, wing 4·55, tail 2·6, tarsus 0·83; toes (without claws)—outer anterior 0·48, outer posterior 0·55, inner anterior 0·4, inner posterior 0·3.

Adult female. Differs from the adult male in wanting the red occipital band. Total length 7 inches, culmen 1·05, wing 4·6, tail 2·7, tarsus 0·78.

Young. In both sexes the crown is red, the red occipital band of the adult male being wanting in the young of that sex. In other respects they closely resemble the adult.

Dr. Ridgway separates the bird from the Sierra Madre de Colima on account of its smaller size, and names it *D. arizonæ fraterculus*. I think the difference in measurement too trifling to justify the separation of these specimens. I give below the size of the wing in specimens from various localities :—

		in.		in.
Arizona	♂ ad.	4·47	♀ ad.	4·45
Chihuahua	„	4·5	„	4·3
Zacatecas	„	4·4		
Jalisco (Tepic)	„	4·3		
„ (Sierra Madre)	„	4·25	„	4·0

Hab. Southern Arizona, and through the mountain-ranges of Sonora and Chihuahua south into Zacatecas and Jalisco, as far as the Sierra Madre.

a. ♀ ad.; *b*, *c.* ♂ ♀ juv. sk.	Santa Rita Mts., Arizona, May, June (*Henshaw*).	Henshaw Coll. [S.-G.].
d, *e.* ♂ juv.; *f–h.* ♀ ad. et juv. sk.	Pinal Co., Arizona, Aug., Oct. (*W. E. D. Scott*).	
i. ♂ ad. sk.	Chiricahui Mts., Arizona, Aug. (*H. Wheeler*).	
k. ♂ ad. sk.	Mexico.	Purchased.
l. ♂ ad. sk.	Mexico.	Gould Coll.
m. ♂ ad. sk.	New Oposura, Sonora, June (*J. C. Cahoon*).	Henshaw Coll. [S.-G.].
n. ♂ ad.; *o.* ♀ imm. sk.	Chihuahua, Mexico (*Buchan-Hepburn*).	Salvin-Godman Coll.
p. ♂ ad. sk.	Chihuahua, April (*W. Lloyd*).	Salvin-Godman Coll.
q, *r.* ♂ ♀ ad. sk.	Rio Verde, Chihuahua, March (*W. Lloyd*).	Salvin-Godman Coll.

s, t. ♂ ad.; *u.* ♀ ad. sk.	Temosachic, Chihuahua, March (*W. Lloyd*).	Salvin-Godman Coll.
v. ♀ ad. sk.	Tomochic, Chihuahua, Dec. (*W. Lloyd*).	Salvin-Godman Coll.
w. ♂ ad. sk.	Rio de Urique, Chihuahua, Nov. (*W. Lloyd*).	Salvin-Godman Coll.
x. ♂ ad. sk.	Sierra Valparaiso, Zacatecas, 8000 feet, July (*W. B. Richardson*).	Salvin-Godman Coll.
y. ♂ ad. sk.	Sierra Madre Nayarit, Jalisco, 8000 feet, July (*W. B. Richardson*).	Salvin-Godman Coll.
z, a', b'. ♂ ad. et juv. sk.	Tepic, May (*W. B. Richardson*).	Salvin-Godman Coll.
c', d', e', f'. ♂ ♀ ad. et juv. sk.	Hac. San Marcos, Jalisco, 5200 ft., May (*W. Lloyd*).	Salvin-Godman Coll.

14. Dendrocopus villosus.

Typical.

Picus villosus, *Linn. Syst. Nat.* i. p. 175 (1766); *Gm. Syst. Nat.* i. p. 435 (1788); *Lath. Ind. Orn.* i. p. 232 (1790); *Barton, Nat. Hist. Penn.* p. 11 (1799); *Vieill. Ois. Am. Sept.* ii. p. 64, pl. cxx. ♂ (1807); *Wils. Amer. Orn.* i. p. 150, pl. ix. fig. 3, ♂ (1808); *Steph. Gen. Zool.* ix. p. 171 (1815); *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 71 (1818); *Vieill. & Bonn. Enc. Méth.* iii. p. 1305 (1823); *Bp. Syn. B. U.S.* p. 46, no. 42 (1826); *Valenc. Dict. Sc. Nat.* xl. p. 180 (1826); *Less. Traité*, i. p. 228 (1831); *Nutt. Man. Orn.* i. p. 575 (1832); *Jard. ed. Wils. Amer. Orn.* i. p. 155, pl. ix. fig. 3, ♂ ad. (1832); *Bp. Comp. List*, p. 39 (1838); *Peab. Bost. Journ. Nat. Hist.* 1841, p. 174; *Bp. Consp. Gen. Av.* i. p. 137 (1850); *Aud. Orn. Biogr.* v. p. 164, pl. ccccxvi. figs. 1, 2 (1839); *id. Syn.* p. 179 (1839); *id. B. Amer.* iv. p. 244, pl. cclxii. ♂ ♀ (1842); *Giraud, B. Long Isl.* p. 174 (1844); *DeKay, Nat. Hist. N. York*, pt. ii. p. 186, pl. xv. fig. 32 (1844); *Gray, Gen. B.* ii. p. 435 (1845); *Reichenb. Scans. Picinæ*, p. 374, no. 863, pl. dcxxxviii. figs. 4252–54 (1854); *Putnam, Proc. Essex Inst.* 1856, p. 214; *Malh. Picidæ*, i. p. 75, pl. xxi. figs. 1–2 (1861); *Verrill, Proc. Essex Inst.* 1862, p. 143; *Cass. Proc. Acad. Philad.* 1863, p. 200; *Allen, Proc. Essex Inst.* 1864, p. 52; *McIlwr. op. cit.* 1866, p. 83; *Coues, op. cit.* 1867, p. 261; *Gray, Hand-l. B.* ii. p. 184, no. 8592 (1870); *Coues, N. Amer. B.* 1872, p. 193; *Brewst. Ann. Lyc. Nat. Hist. N. York*, 1875, p. 144; *Coues, Bull. U.S. Geol. Surv.* iv. no. 3, p. 615 (1878); *Mayn. Birds E. N. Amer.* p. 239, pl. xix. (1879); *Ridgw. Proc. U.S. Nat. Mus.* 1880, p. 188, no. 360; *Coues, Check-list N. Amer. B.* 1882, p. 77, no. 438; *Nehrl. J. f. O.* 1883, p. 94; *Coues, Key N. Amer. B.* 2nd ed. 1884, p. 483, fig. 333, p. 482.

Picus leucomelanus, *Wagl. Syst. Av.* Picus, sp. 18, juv. (1827).

Dryobates villosus, *Boie, Isis*, 1828, p. 326; *Cab. & Heine, Mus. Hein.* iv. p. 66 (1863); *Brewst. Auk*, 1886, p. 104; *A. O. U. Check-list N. Amer. B.* p. 210, no. 393 (1886); *Ridgw. Man. N. Amer. B.* p. 282, pl. lxxxiii. fig. 1 (1887); *Warren, B. Penn.* p. 124 (1888).

Picus martini, *Bp. Comp. List*, p. 39, no. 258 (1838); *Malh. Picidæ*, i. p. 82, pl. xxii. figs. 1, 2, juv. (1861).

Picus martinæ, *Aud. Orn. Biogr.* v. p. 181, pl. ccccxvii. figs. 1, 2 (1839); *id. Syn.* p. 178 (1839); *id. B. Amer.* iv. p. 240, pl. cclx.

figs. 1 ♂, 2 ♀ (1842); *Gray, Gen. B.* ii. p. 435 (1845); *Bp. Consp. Gen. Av.* i. p. 138 (1850); *Reichenb. Scans. Picinæ*, p. 364, no. 840, pl. dcxxxii. figs. 4206–7, juv. (1854).

Picus rubricapillus, *Nutt. Man. Orn.* i. p. 685 (1840).

Trichopicus villosus, *Bp. Consp. Volucr. Zygod.* p. 8, no. 38 (1854).

Trichopicus martinæ, *Bp. Consp. Volucr. Zygod.* p. 8, no. 44 (1854).

Picus villosus, var. medius, *Baird, B. N. Amer.* p. 84 (1858); *Sundev. Consp. Av. Picin.* p. 16 (1866).

Picus villosus, var. villosus, *B., B., & R. N. Amer. B.* ii. p. 503, pl. xlix. fig. 345 (1874).

Large Northern form.

Picus villosus, *Forst. Phil. Trans.* (abr. ed.), lxii. p. 333 (1772); *Gray, List Picid. Brit. Mus.* p. 45 (1868), pt.; *id. Hand-l. B.* ii. p. 184, no. 8592 (1870), pt.; *Cory, Nat. Magd. Isl.* p. 51 (1878); *Merriam, Bull. Nutt. Orn. Club*, 1882, p. 236; *Stearns, Proc. U.S. Nat. Mus.* 1883, p. 118; *Scott, Auk*, 1884, p. 161.

Picus leucomelas, *Bodd. Tabl. Pl. Enl.* p. 21, no. 345. 1 (1783); *Cass. Proc. Philad. Acad.* 1863, p. 199; *Gray, List Picid. Brit. Mus.* p. 46 (1868); *id. Hand-l. B.* ii. p. 185, no. 8599 (1870).

Picus canadensis, *Gm. Syst. Nat.* i. p. 437 (1788); *Lath. Ind. Orn.* i. p. 230 (1790); *Steph. Gen. Zool.* ix. p. 173 (1815); *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 92 (1818); *id. & Bonn. Enc. Méth.* iii. p. 1318 (1823); *Aud. Orn. Biogr.* v. p. 188, pl. ccccxvii. (1839); *id. Syn. B. N. Amer.* p. 177 (1839); *id. B. Amer.* iv. p. 235, pl. cclviii. ♂ (1842); *Bp. Consp. Gen. Av.* i. p. 137 (1850); *Reichenb. Scans. Picinæ*, p. 373, no. 862, pl. dcxxxviii. figs. 4250–51, ♂ ♂ (1854); *Malh. Picidæ*, i. p. 78, pl. xxi. fig. 4, ♂ (1861).

Picus (Dendrocopus) villosus, *Swains. & Rich. Faun. Bor.-Amer.* ii. pp. xxvi (introd.) & 305, figs. 1–4 (1831); *Dall & Bann. Trans. Chic. Acad.* 1869, p. 274.

Picus phillipsi, *Aud. Orn. Biogr.* v. p. 186, pl. ccccxvii. figs. 5, 6 (1839); *id. Syn. B. N. Amer.* p. 177 (1839); *Nutt. Man. Orn.* i. p. 686 (1840); *Aud. B. Amer.* iv. p. 238, pl. cclix., juv. (1842); *Gray, Gen. B.* ii. p. 435 (1845); *Bp. Consp. Gen. Av.* i. p. 138 (1850); *Reichenb. Scans. Picinæ*, p. 364, no. 839, pl. dcxxxii. figs. 4204–5, juv. (1854); *Malh. Picidæ*, i. p. 84, pl. xxi. fig. 5, juv. (1861); *Gray, List Picid. Brit. Mus.* p. 46 (1868); *id. Hand-l. B.* ii. p. 185, no. 8601 (1870).

Picus septentrionalis, *Nutt. Man. Orn.* i. p. 684 (1840).

Trichopicus philipsi, *Bp. Consp. Volucr. Zygod.* p. 8, no. 43 (1854).

Picus villosus, var. major, *Baird, B. N. Amer.* p. 84 (1858); *Sundev. Consp. Av. Picin.* p. 16 (1866).

Dryobates leucomelas, *Cab. & Heine, Mus. Hein.* iv. p. 67 (1863).

Picus villosus, var. canadensis, *B., B., & R. N. Amer. B.* ii. p. 503 (1874).

Picus villosus (majores), *Coues, B. N.-West*, p. 279 (1874).

Picus villosus leucomelas, *Ridgw. Proc. U.S. Nat. Mus.* 1880, pp. 188, 219.

Dryobates villosus leucomelas, *A. O. U. Check-list N. Amer. B.* p. 210, no. 393 *a* (1886); *Seton, Auk*, 1886, p. 155; *Ridgw. Man. N. Amer. B.* p. 282 (1887).

Small Southern form.

Picus audubonii, *Swains. Faun. Bor.-Amer.* ii. p. 306, figs. 5–7 (1831); *Trud. Journ. Philad. Acad.* 1837, p. 404, juv.; *Bp. Comp. List*,

p. 39, no. 257 (1838); *Aud. Orn. Biogr.* v. p. 194, pl. ccccxvii. fig. 10 (1839); *id. Syn. B. N. Amer.* p. 181 (1839); *id. B. Amer.* iv. p. 259, pl. cclxv. ♂ (1842); *Gray, Gen. B.* ii. p. 435 (1845); *Bp. Consp. Gen. Av.* i. p. 138 (1850); *Reichenb. Scans. Picinæ*, p. 363, no. 838, pl. dcxxxii. fig. 4203, juv. (1854); *Malh. Picidæ*, i. p. 87, pl. xxii. fig. 4, ♂ juv. (1861).

Trichopicus auduboni, *Bp. Consp. Volucr. Zygod.* p. 8, no. 46 (1854).

Picus villosus, var. minor, *Baird, B. N. Amer.* p. 85 (1858); *Sundev. Consp. Av. Picin.* p. 16 (1866).

Picus cuvieri, *Malh. Picidæ*, i. p. 85, pl. xxii. fig. 3, ♀ juv. (1861).

Picus villosus, *Allen, Bull. M. C. Z.* 1871, p. 302; *Beckham, Auk*, 1887, p. 303.

Picus villosus, var. auduboni, *B., B., & R. N. Amer. B.* ii. p. 503 (1874).

Dryobates villosus auduboni, *Brewst. Auk*, 1886, p. 104; *Batchelder, t. c.* pp. 313, 314; *Fox, t. c.* p. 319; *A. O. U. Check-list N. Amer. B.* p. 211, no. 393*b* (1886); *Sennett, Auk*, 1887, p. 242; *Ridgw. Man. N. Amer. B.* p. 282 (1887).

Adult male. Back black, with a broad median stripe of white; rump, upper tail-coverts, and scapulars black; wings and their coverts black, the median and the greater coverts, as well as both webs of the quills, spotted with white; shafts blackish brown; the four central tail-feathers black, the next one having the basal half black, the apical half white, the two outer large feathers on either side white, with only a black basal spot; shafts corresponding in colour with the surrounding web; nasal plumes buffy white, with black tips; top of the head, sides of the face and neck, and hind neck black, with a white superciliary stripe extending on to the occiput and uniting with the corresponding stripe above the scarlet occipital band, and another white stripe from the base of the upper mandible running down to the side of the hind neck; from the chin to the under tail-coverts (both inclusive) pure white, the black stripe which borders the throat prolonged on to the side of the chest; under wing-coverts and axillaries white, the former having one or two black spots and a black patch on the edge of the wing. Measurements of typical bird:—Total length 8·5 inches, culmen 1·25, wing 4·85, tail 3, tarsus 0·88; toes (without claws)—outer anterior 0·62, outer posterior 0·7, inner anterior 0·5, inner posterior 0·32.

Adult female. Differs from the adult male in wanting the scarlet occipital band; the middle of the occiput black, the white stripes which border the crown scarcely uniting. Total length 8·5 inches, culmen 1·16, wing 4·8, tail 3·1, tarsus 0·84.

Young male. Has some of the feathers of the crown tipped with orange-red, and a small dull white spot between this colour and the black base; the under surface of the body is of a less pure white than in the adult, and the flanks and thighs have dusky stripes and a trace of dusky bars; the white on the back is striped with black; the shafts of the quills clear dark brown. In other respects it resembles the adult female.

Hab. North America, from the Atlantic to the Eastern base

of the Rocky Mountains, sometimes found on the west side of these mountains.

a, b. ♂ ♀ ad. st.	West side of Rocky Mts.	J. K. Lord, Esq. [P.].
c. ♀ ad. sk.	Canada.	Tweeddale Coll.
d. ♂ ad. sk.	Fort Simpson.	B. R. Ross, Esq. [P.].
e, f. ♂ ♀ ad. sk.	Fort Dufferin.	N.A.Boundary Comm.
g, h. ♂ ♀ ad. st.	British Columbia.	J. K. Lord, Esq. [P.].
i. ♀ ad. sk.	United States.	Selater Coll.
k. ♀ ad. sk.	Upton, Maine, August (*Henshaw*).	Henshaw Coll. [S.-G.].
l, m. ♀ ad.; *n.* Juv. sk.	Michigan.	Prof. Steere [P.].
o, p. ♂ ♀ ad. sk.	Leyden, N. Y., Dec. (*Hart Merriam*).	
q. ♀ ad.; *r.* ♂ juv. sk.	Locust Grove, New York, April & July (*Henshaw*).	
s, t. ♂ ad.; *u.* ♀ ad. sk.	Lyons Falls, N. Y., Jan., Dec. (*A. J. Dayan*).	
v. ♂ ad.; *w, x.* ♂ ♀ juv. sk.	Adirondacks, N. Y., June (*Hart Merriam*).	
y, z. ♂ ad. et juv. sk.	Big Moose Lake, N. Y., Aug. & Nov. (*Hart Merriam*).	
a'. ♀ ad. sk.	Concord, Massachusetts, May (*Henshaw*).	
b'. ♂ ad. sk.	Grantville, Mass., April (*Henshaw*).	
c' ♀ ad. sk.	Wellesley, Mass., Oct. (*Henshaw*).	
d', e'. ♂ ♀ ad. sk.	New Haven, Connecticut Nov. (*Hart Merriam*).	Henshaw Coll. [S.-G.].
f', g'. ♂ ♀ ad. sk.	Munsen Hill, Washington, D. C., March (*Henshaw*).	
h', i'. ♂ ♀ ad. sk.	Washington, D. C., Nov., Dec. (*Henshaw*).	
k'. ♂ ad. sk.	Calumet, Illinois, Sept. (*E. W. Nelson*).	
l'. ♀ ad. sk.	Evanston, Illinois, Dec. (*Henshaw*).	
m'. ♀ ad. sk.	Mt. Carmel, Ill., Aug. (*E. W. Nelson*).	
n'. ♀ ad. sk.	St. Lucie, Florida, Oct. (*W. Hoxie*).	
o'. ♂ juv. sk.	Sunbeam, Florida, Aug. (*W. Hoxie*).	
p', q'. ♂ ♀ ad. sk.	Cedar Keys, Florida, Dec. (*Henshaw*).	
r'. ♂ ad. sk.	Okahumkee, Florida, April (*Hart Merriam*).	
s'. ♀ ad. sk.	California.	Tweeddale Coll.

Subsp. *a.* **Dendrocopus maynardi.**

Picus villosus (*non Linn.*), *Bryant, Proc. Bost. Soc.* 1859, p. 106; *Cory, B. Bahama Isl.* p. 120 (1880).

Picus insularis (*non Gould*), *Maynard, Nat. in Florida*, i. no. 4 (1885).
Picus villosus insularis, *Cory, List B. W. Ind.* p. 19 (1885).
Dryobates villosus insularis, *Cory, Auk*, 1886, p. 375.
Dryobates villosus maynardi, *Ridgw. Man. N. Amer. B.* p. 282 (1887).

Adult male. Differs from *D. villosus* in having the entire loral region white, and uniting with the white superciliary stripe; the eye surrounded by white; the malar region more varied with white; the red occipital band broader; the white down the back more striped with black, and the underparts tinged with buff; the dimensions are considerably less. Total length 7·5 inches, culmen 1·1, wing 4·1, tarsus 0·8.

Adult female. "The scarlet crescent wanting, replaced by white. Length 7·25 inches, wing 4·2, tail 3, tarsus 0·7, bill 1." (*Cory.*)

Hab. Northern Bahama Islands.

a. ♂ ad. sk. Bahamas (*Blake*). Selater Coll.

Subsp. β. **Dendrocopus harrisi.**

Picus villosus (*non Linn.*), *Vig. in Beechey's Voy.* p. 23 (1839).
Picus harrisi, *Aud. Orn. Biogr.* v. p. 191 (1839); *id. Syn. N. Amer. B.* p. 178 (1839); *Townsend, Excur. Rocky Mts.* ii. p. 304, *App.* (1340); *Giraud, B. Texas*, p. 1 (1841); *Aud. B. Amer.* iv. p. 242, pl. cclxi. ♂ ♀ ad. (1842); *Gray, Gen. B.* ii. p. 435 (1845); *Gamb. Journ. Philad. Acad.* 1847, p. 54; *Bp. Consp. Gen. Av.* i. p. 138 (1850); *Reichenb. Scans. Picinæ*, p. 364, no. 841, pl. dcxxxii. figs. 4208–9, ♂ ♀ ad. (1854); *Licht. Nomenel. Av.* p. 75 (1854); *Selat. P. Z. S.* 1857, p. 127, 1858, p. 3; *Baird, B. N. Amer.* p. 87 (1858); *id. U.S. & Mex. Bound. Surv.* 1858, p. 5; *Kenn, P. R. R. Rep. Ex.* pt. iv. p. 21 (1859); *Heerm. op. cit.* pt. vi. p. 57 (1859); *Malh. Picidæ*, i. p. 73, pl. xx. figs. 1, 2, ♂ ♀ ad. (1861); *Cass. Proc. Philad. Acad.* 1863, p. 200; *Coues, Ibis*, 1865, pp. 162, 567; *Sundev. Consp. Av. Picin.* p. 17 (1866); *Coues, Proc. Philad. Acad.* 1866, p. 52; *Baird, Ibis*, 1867, p. 270; *Brown, op. cit.* 1868, p. 419; *Gray, List Picid. Brit. Mus.* p. 47 (1868); *id. Hand-l. B.* ii. p. 184, no. 8593 (1870); *Coop. B. Calif. ed. Baird*, i. p. 375, figured pp. 373–375 (1870); *Aiken, Proc. Bost. Soc.* 1872, p. 206; *Coues, B. N.-West*, p. 280 (1874); *Gieb. Thes. Orn.* iii. p. 158 (1876); *Ridgw. Orn. 40th Par.* p. 545 (1877); *Belding, Proc. U.S. Nat. Mus.* 1878, pp. 391, 393.
Trichopicus harrisi, *Bp. Consp. Volucr. Zygod.* p. 8, no. 45 (1854).
Dryobates harrisi, *Cab. & Heine, Mus. Hein.* iv. p. 68 (1863).
Dryobates hyloscopus, *Cab. & Heine, Mus. Hein.* iv. p. 69 (1863).
Picus hyposcopus, *Gray, Hand-l. B.* ii. p. 185, no. 8604 (1870).
Picus villosus, var. harrisi, *Coues, Key N. Amer. B.* 1872, p. 194; *B., B., & R. N. Amer. B.* ii. p. 507 (1874); *Hensh. Ann. Lyc. Nat. Hist. N. York*, xi. p. 9 (1874); *id. U.S. Geogr. Surv. W. of 100th Merid.* 1875, p. 386; *Beld. Proc. U.S. Nat. Mus.* 1878, p. 428; *Coop. op. cit.* 1879, p. 250; *Ridgw. op. cit.* 1880, p. 188, no. 360 *b*.
Picus villosus harrisi, *Coues, Bull. U.S. Geol. Surv.* iv. no. 3, p. 616 (1878); *id. Check-list*, p. 77, no. 439 (1882); *Hartl. J. f. O.* 1883, p. 275; *Coues, Key N. Amer. B.* 2nd ed. 1884, p. 483; *Drew, Auk*, 1885, p. 17; *Batchelder, t. c.* p. 127; *Scott, t. c.* pp. 174, 356 *Agersb. t. c.* p. 283; *Hensh. op. cit.* 1886, p. 78.

Dryobates villosus harrisi, *Everm. Auk*, 1886, p. 93; *Anthony, t. c.* p. 165; *Scott, t. c.* p. 425; *A. O. U. Check-list N. Amer. B.* p. 211, no. 309 *c* (1886); *Ridgw. Man. N. Amer. B.* p. 283 (1887).

Adult male. Differs from *D. villosus* in having the wing-coverts, the outer webs of the inner secondaries, and both webs of the innermost of these almost devoid of white spots; the spots on the primaries very small on the outer webs; the under surface of the body buffy white or smoky white, the under wing-coverts having large and conspicuous spots of black; the four central tail-feathers are totally black, and there is a greater amount of black upon the next outer feather, the inner web being almost wholly so. Total length 8·8 inches, culmen 1·38, wing 5·05, tail 3·35, tarsus 0·92; toes (without claws)—outer anterior 0·62, outer posterior 0·7, inner anterior 0·5, inner posterior 0·35.

Adult female. Resembles the adult male, but wants the scarlet occipital band, the middle feathers of the occiput being black, the white on either side not forming a complete band. Total length 8·5 inches, culmen 1·15, wing 5·03, tail 3·3, tarsus 0·83.

Young. Differ from the adult of both sexes in having red upon the crown, and resemble the adult female in having the occiput black. The amount of red upon the crown varies, in some individuals forming a band across the middle of the crown, the feathers having between the red tips and black bases a small white spot; other examples have only a few of the coronal feathers tipped with dull red and a short white shaft-stripe. In other specimens the whole of the crown-feathers are tipped with orange-scarlet, and have a distinct white spot between this colour and the black base; the frontal feathers have also stripe-like spots of white; the flanks and thighs have faint dusky stripes and bar-like spots, but sometimes these are almost entirely wanting; the primaries tipped with white.

In this species the underparts vary from buffy white to smoky white and brown, the latter colour tinting the white of the face and also of the median stripe down the back.

Hab. Western United States, from the Rocky Mountains to the Pacific coast, north to Chilcoot, Alaska, south along the tablelands of Mexico to the Sierra de San Luis Potosi, and on the west to the Sierra Madre de Colima, Jalisco.

a. ♀ imm. sk.	N.W. America.	Sir E. Belcher [P.].
b, c, d. ♂ ♀ ad. sk.	British Columbia.	J. K. Lord, Esq. [P.].
e. Juv. sk.	Vancouver Island.	Dr. Lyall [P.].
f. ♂ ad. sk.	Orcas Island.	Dr. Lyall [P.].
g. ♀ ad. sk.	Fort Steilacoom, Puget Sound, Washington State (*Dr. Suckley*).	Henshaw Coll. [S.-G.].
h. ♀ imm. sk.	Teton Cañon, Montana, July (*Hart Merriam*).	
i. ♂ juv. sk.	Sarpy Fort, Montana, Aug. (*Henshaw*).	
k. ♀ ad. sk.	Dead Wood, Dakota, Oct. (*Vernon Bailey*).	

l, *m*. ♂ ♀ ad. sk.	Custer, Dakota, July (*Vernon Bailey*).	Henshaw Coll. [S.-G.].
n, *o*. ♂ ♀ ad. sk.	Fort Klamath, Oregon, Oct., Jan. (*C. Bendire*).	
p. ♂ ad. sk.	Fort Bridger, Wyoming, Sept. (*Vernon Bailey*).	
q, *r*. ♂ ad. sk.	California.	Purchased.
s, *t*. ♂ ♀ ad.; *u*, *v*. Juv. sk.	California.	Tweeddale Coll.
w. Juv. sk.	California (*L. Belding*).	Henshaw Coll. [S.-G.].
x. ♂ ad.; *y*, *z*, *a'*. ♀ ad. sk.	Fort Crook, California, Nov., Jan. (*D. F. Parkinson*).	
b'. ♂ ad. sk.	Fort Crook, California.	Sclater Coll.
c'. ♀ ad. sk.	Nevada, California, Nov. (*E. W. Nelson*).	Henshaw Coll. [S.-G.].
d'. ♀ ad. sk.	Lake Tahoe, California (*Henshaw*).	
e'. ♀ ad. sk.	Carson, Nevada, Nov. (*Henshaw*).	
f'. ♀ ad.; *g'*. Juv. sk.	Garland, Colorado, May, Aug. (*H. Wheeler*).	
h'–*k'*. ♂ ad.; *l'*, *m'*. ♀ ad. sk.	Santa Fé Mts., New Mexico, Aug., Dec. (*Henshaw*).	
n', *o'*. ♂ ad.; *p'*, *q'*, *r'*. ♀ ad. sk.	Springerville, Arizona, Jan., Feb. (*Henshaw*).	
s', *t'*. ♂ ♀ ad. sk.	Casa Colorado, Chihuahua, Mexico, March (*W. Lloyd*).	Salvin-Godman Coll.
u'. ♂ ad. sk.	Pinos Altos, Chihuahua.	Salvin-Godman Coll.
v'. ♂ ad.; *w'*, *x'*. ♀ ad. sk.	Temosachic, Chihuahua, March (*W. Lloyd*).	Salvin-Godman Coll.
y'. ♀ ad. sk.	Rio de Iglesias, Chihuahua, Dec. (*W. Lloyd*).	Salvin-Godman Coll.
z'. ♀ ad. sk.	Rio de Emeritano, Chihuahua, Dec. (*W. Lloyd*).	Salvin-Godman Coll.
a''. ♂ ad. sk.	Refugio, Chihuahua, Dec. (*W. Lloyd*).	Salvin-Godman Coll.
b'', *c''*. ♂ ♀ ad. sk.	Rio de Urique, Chihuahua, Nov. (*W. Lloyd*).	Salvin-Godman Coll.
d''. ♂ ad. sk.	Ciudad Durango, Mexico, June (*A. Forrer*).	Salvin-Godman Coll.
e''. ♂ juv. sk.	S. Nayarit, Jalisco, 8000 ft., June (*W. B. Richardson*).	Salvin-Godman Coll.
f''. ♂ ad. (♀?) sk.	Huayimic, S. Madre Nayarit, June (*W. B. Richardson*).	Salvin-Godman Coll.
g'', *h''*. ♂ ad. et juv.; *i''*. ♀ ad. sk.	Sierra Valparaiso, Jalisco, Jan., July (*W. B. Richardson*).	Salvin-Godman Coll.
k'', *l''*. ♂ ♀ ad. sk.	S. Nevada de Colima, Jalisco, April (*W. Lloyd*).	Salvin-Godman Coll.
m'', *n''*. ♂ ad. sk.	Sierra de San Luis Potosi, July (*W. B. Richardson*).	Salvin-Godman Coll.
o'', *p''*. ♀ ad. sk.	Mexico, Dec. (*Buchan-Hepburn*).	Salvin-Godman Coll.

Subsp. γ. Dendrocopus jardinii.

Picus (Leuconotopicus) jardinii, *Malh. Rev. Zool.* 1845, p. 374.
Picus jardinii, *Malh. N. Classif., Mém. Acad. Metz*, 1848-49, p. 327; *Gray, Gen. B.* iii. *App.* p. xxi (1849); *Bp. Consp. Gen. Av.* i. p. 137 (1850); *Sclat. P. Z. S.* 1856, p. 308, 1857, p. 214, 1858, p. 359, 1859, pp. 367, 388; *id. & Salv. Ibis*, 1859, p. 136; *Cav.-Tayl. op. cit.* 1860, p. 119; *Malh. Picidæ*, i. p. 103, pl. xxv. figs. 4 ♂, 5 ♀ (1861); *Sclat. Cat. Amer. B.* p. 334, no. 1990 (1862); *Cass. Proc. Philad. Acad.* 1863, p. 200; *Sclat. P. Z. S.* 1864, p. 177; *Sundev. Consp. Av. Picin.* p. 17 (1866); *Lawr. Ann. Lyc. Nat. Hist. N. York*, 1868, p. 130; *Gray, List Picid. Brit. Mus.* p. 50 (1868); *id. Hand-l. B.* ii. p. 186, no. 8614 (1870); *Salv. P. Z. S.* 1870, p. 212; *id. & Sclat. Nomencl. Av. Neotr.* p. 99 (1873); *Zeled. Cat. Av. Costa Rica*, p. 23 (1882).
Phrenopicus jardinii, *Bp. Consp. Volucr. Zygod.* p. 8, no. 35 (1854).
Picus harrisii, *Hoffm. J. f. O.* 1862, p. 175; *Sumich. Mem. Bost. Soc. Nat. Hist.* 1869, p. 562; *Lawr. Ann. Lyc. Nat. Hist. N. York*, 1870, p. 130.
Dryobates jardinei, *Cab. & Heine, Mus. Hein.* iv. p. 69 (1863).
Dryobates villosus harrisii (pt.), *A. O. U. Check-list N. Amer. B.* p. 211, no. 393 *c* (1886).
Dryobates villosus jardinii, *Ridgw. Man. N. Amer. B.* p. 283 (1887).

Adult male. Resembles the male of *D. harrisi*, but is a much smaller and darker bird, the under surface of the body becoming deep brown in southern examples, this brown colour tinging the white on the face and back; the wing-coverts are generally without spots, and the wings, when closed, only exhibit a few small white spots on the primaries and the outer secondaries, but occasionally the secondaries are devoid of any exposed spots when the wing is closed. In some examples there is a profusion of large heart-shaped spots and stripes of black on the sides of the chest, these being a continuation of the stripe which borders the throat and fore neck. A specimen from Jalapa measures as follows:—Total length 8 inches, culmen 1·15, wing 4·65, tail 2·8, tarsus 0·8; toes (without claws)—outer anterior 0·55, outer posterior 0·6, inner anterior 0·48, inner posterior 0·32. An example from Costa Rica measures 7 inches, culmen 1·07, wing 3·95, tail 2·25, tarsus 0·75.

Adult female. Differs from the adult male in wanting the red occipital band, the occiput being black, the white superciliary stripes extending on to its sides, but not uniting. Measurements of a specimen from Jalapa:—Total length 8 inches, culmen 0·93, wing 4·45, tail 2·6, tarsus 0·8. A Guatemalan female measures 7 inches, culmen 0·88, wing 4·3, tail 2·2, tarsus 0·76.

Young. Differ from the adult of both sexes in having most of the feathers of the crown tipped with red, and at the base of the red tips a small stripe-like spot of dingy white, the outer feathers being tipped with dull buffy white; the forehead very narrowly striped with white; the primaries having a V-shaped marking of white at the tip; the two large outer tail-feathers on either side uniform white.

Hab. The mountainous parts of Central America to Veragua, State of Panama; and Southern Mexico to about 20° N. lat.

a, *b*. Ad. sk.	Mexico.	Tweeddale Coll.
c. ♀ ad. sk.	Mexico.	Gould Coll.
d. ♀ ad. sk.	Valley of Mexico (*H. S. le Strange*).	Salvin-Godman Coll.
e. ♀ ad. sk.	Mexicalcingo, Tlalpam, Jan.	Salvin-Godman Coll.
f, *g*. ♂ ad. sk.	Chimalapa, Tacubaya, Jan., Feb. (*Com. Explor. Mex.*).	Salvin-Godman Coll.
h. ♀ ad. sk.	San Pedro, Tacubaya, Feb. (*Com. Explor. Mex.*).	Salvin-Godman Coll.
i. ♂ ad. sk.	Tonaguia, Oaxaca, Feb.	Salvin-Godman Coll.
k. ♂ ad.; *l*, *m*. ♂ ♀ juv. sk.	Cofre de Perote, Mexico, July (*Mateo*).	Salvin-Godman Coll.
n. ♂ ad. sk.	Popocatapetl (10–12,000 feet). Mexico, April (*F. D. G.*).	Salvin-Godman Coll.
o, *p*. ♂ ♀ ad. sk.	Jalapa, Mexico.	Sclater Coll.
q. ♀ ad. sk.	Jalapa (*de Oca*).	Tweeddale Coll.
r, *s*. ♂ ♀ ad. sk.	Sierra del Sur, Mexico (*Mrs. H. H. Smith*).	Salvin-Godman Coll.
t, *u*. ♀ ad.; *v*. Juv. sk.	Omilteme (8000 feet), State of Guerrero, July (*Mrs. H. H. Smith*).	Salvin-Godman Coll.
w, *x*. ♂ ad.; *y*, *z*, *a'*. ♀ ad. sk.	Amula (6000 feet), State of Guerrero, Aug. (*Mrs. H. H. Smith*).	Salvin-Godman Coll.
b'. ♀ ad. sk.	S. Miguel Molino (Huejotzingo), Puebla, July (*Com. Explor. Mex.*).	Salvin-Godman Coll.
c', *d'*. ♀ ad. sk.	Guatemala.	Gould Coll.
e'. ♂ ad. sk.	Vera Paz, Guatemala (*Salvin*).	Tweeddale Coll.
f'. ♀ ad. sk.	San Gerónimo, Vera Paz (*O. S.*).	Salvin-Godman Coll.
g'. ♂ ad. sk.	Dueñas, Guatemala (*O. S.*).	Salvin-Godman Coll.
h'. ♂ ad. sk.	Volcan de Fuego, Guatemala, Aug. (*O. S.*).	Salvin-Godman Coll.
i'. ♀ ad. sk.	Volcan de Fuego, Aug. (*O. S.*).	Sclater Coll.
k'. ♀ ad. sk.	Calderas, Volcan de Fuego (*O. S.*).	Salvin-Godman Coll.
l'. ♂ ad. sk.	Costa Rica.	Tweeddale Coll.
m'. ♂ ad. sk.	Costa Rica.	Purchased.
n', *o'*. ♀ ad. sk.	Costa Rica (*J. Carmiol*).	Salvin-Godman Coll.
p'. ♂ ad. sk.	Volcan de Cartago, Costa Rica (*E. Arcé*).	Salvin-Godman Coll.
q'. ♂ ad.; *r'*. Juv. sk.	Irazu Distr., Costa Rica (*H. Rogers*).	Salvin-Godman Coll.
s', *t'*. ♂ ♀ ad. sk.	Southern Slope of Chiriqui (*E. Arcé*).	Salvin-Godman Coll.

15. Dendrocopus pubescens.

The smallest spotted Woodpecker, *Catesby, Nat. Hist. Carol.* i. p. 21, ♂ figd. (1731).

Le petit Pic varié de Virginie, *Briss. Orn.* iv. p. 50 (1760).

Picus pubescens, *Linn. Syst. Nat.* i. p. 175 (1766); *Gm. Syst. Nat.* i. p. 435 (1788); *Lath. Ind. Orn.* i. p. 232 (1790); *Bart. Nat. Hist. Penn.* p. 11 (1799); *Vieill. Ois. Amér. Sept.* ii. p. 65, pl. cxxi., ♂ (1807); *Wils. Amer. Orn.* i. p. 153, pl. ix. fig. 4, ♂ ad. (1808); *Steph. Gen. Zool.* ix. p. 170 (1815); *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 82 (1818); *id. & Bonn. Enc. Méth.* iii. p. 1311 (1823); *Wagl. Syst. Av.* Picus, sp. 23 (1827); *Bp. Syn. Bds. U. S.* p. 46, no. 43 (1828); *Less. Traité*, i. p. 228 (1831); *Jard. ed. Wilson's Amer. Orn.* i. p. 158, pl. ix. fig. 4, ♂ (1832); *Nutt. Man. Orn.* i. p. 576 (1832); *Aud. Orn. Biogr.* ii. p. 81 pl. cxii., ♂ ♀ (1834); *Bp. Comp. List B. Eur. & N. Amer.* p. 39, no. 256 (1838); *Aud. Orn. Biogr.* v. p. 539 (1839); *id. Syn.* p. 180 (1839); *id. B. Amer.* iv. p. 249, pl. cclxiii., ♂ ♀ (1839); *Peab. Bost. Journ. Nat. Hist.* 1841, p. 174; *De Kay, Nat. Hist. N. York*, pt. 2, p. 187, pl. xvi. fig. 35, ♂ (1844); *Gray, Gen. B.* ii. p. 435 (1845); *Bp. Consp. Gen. Av.* i. p. 138 (1850); *Reichenb. Scans. Picinæ*, p. 374, no. 864, pl. dcxxxviii. figs. 4255–57, ♂ ♂ ♀ (1854); *Putn. Proc. Essex Inst.* 1856, p. 214; *Baird, B. N. Amer.* p. 89 (1858); *Malh. Picidæ*, i. p. 119, pl. xxix. figs. 8, 9, ♂ ♀ (1861); *Verrill, Proc. Essex Inst.* 1862, p. 143; *Sclat. Cat. Amer. B.* p. 334, no. 1993 (1862); *Blakist. Ibis*, 1862, p. 3, 1863, p. 51; *Cass. Proc. Philad. Acad.* 1863, p. 201; *Allen, Proc. Essex Inst.* 1864, p. 52; *Dresser, Ibis*, 1865, p. 468; *McIlwr. Proc. Essex Inst.* 1866, p. 83; *Sundev. Consp. Av. Picin.* p. 17 (1866); *Baird, Ibis*, 1867, pp. 270, 285; *Coues, Proc. Essex Inst.* 1867, p. 262; *Gray, List Picid. Brit. Mus.* p. 44 (1868); *id. Hand-l. B.* ii. p. 184, no. 8590 (1870); *Coues, Key N. Amer. B.* 1872, p. 194, fig. 130; *B., B., & R. N. Amer. B.* ii. p. 509, pl. xlix. figs. 6, 7, ♂ ♀ (1874); *Coues, B. N.-West*, p. 282 (1874); *Brewst. Ann. Lyc. Nat. Hist. N. York*, 1875, p. 144; *Cory, Nat. Magd. Isl.* p. 51 (1878); *Beld. Proc. U. S. Nat. Mus.* 1878, p. 428 *; *Mayn. Bds. E. N. Amer.* p. 242 (1879); *Ridgw. Proc. U. S. Nat. Mus.* 1880, p. 188, no. 361; *Coues, Check-list N. Amer. B.* 1882, p. 77, no. 440; *Merriam, Bull. Nutt. Orn. Club*, 1882, p. 236; *Stearns, Proc. U. S. Nat. Mus.* 1883, p. 118; *Hartl. J. f. O.* 1883, p. 275; *Coues, Key N. Amer. B.* 2nd ed. 1884, p. 483, fig. 334; *Agersb. Auk*, 1885, p. 283.

Picus (Dendrocopus) pubescens, *Swains. Faun. Bor.-Amer.* ii. pp. xxvi (Introd.), 307 (1831).

Picus (Dendrocopus) medianus, *Swains. Faun. Bor.-Amer.* ii. p. 308 (1831).

Picus (Dendrocopus) meridionalis, *Swains. Faun. Bor.-Amer.* ii. p. 308 (1831).

Picus medianus, *Nutt. Man. Orn.* ii. p. 601 (1834); *Gray, Gen. B.* ii. p. 435 (1845); *Bp. Consp. Gen. Av.* i. p. 138 (1850); *Reichenb. Scans. Picinæ*, p. 375, no. 866 (1854); *Malh. Picidæ*, i. p. 122 (1861); *Gray, Hand-l. B.* ii. p. 184, no. 8594 (1870).

Picus meridionalis, *Gray, Gen. B.* ii. p. 435 (1845); *Bp. Consp. Gen. Av.* i. p. 138 (1850); *Malh. Picidæ*, i. p. 124 (1861); *Gray, Hand-l. B.* ii. p. 184, no. 8595 (1870).

Picus lecontei, *Jones, Ann. Lyc. N. York*, 1848, p. 489, pl. xvii.

Trichopicus pubescens, *Bp. Consp. Volucr. Zygod.* p. 8, no. 39 (1854).

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* From Central California, and pronounced by Dr. Ridgway to be a typical *D. pubescens.*

Trichopicus medianus, *Bp. Consp. Volucr. Zygod.* p. 8, no. 40 (1854).
Trichopicus meridionalis, *Bp. Consp. Volucr. Zygod.* p. 8, no. 41 (1854).
Tridactylia lecontii, *Bp. Consp. Volucr. Zygod.* p. 8, no. 85 (1854).
Picoides lecontei, *Malh. Picidæ*, i. p. 182, pl. xl. fig. 7, ♂ (1861).
Dryobates pubescens, *Boie, Isis*, 1826, p. 977, 1828, p. 326; *Cab. & Heine, Mus. Hein.* iv. p. 62 (1863); *Brewst. Auk*, 1886, p. 104; *A. O. U. Check-list N. Amer. B.* p. 211, no. 394 (1886); *Lloyd, Auk*, 1887, p. 190; *Sennett, t. c.* p. 242; *Ridgw. Man. N. Amer. B.* p. 283 (1887); *Warren, B. Penn.* p. 126 (1888).

Adult male. Back black, with a median stripe of white; rump and upper tail-coverts uniform black; scapulars black, with whitish tips; wing-coverts and wings black, both webs of the latter and the coverts (except along the forearm) spotted with white; shafts of quills black; the four central tail-feathers black, the next one black on the basal half, the apical half white and crossed by a black bar, the two outer large feathers almost entirely white and barred on the apical portion with black; shafts corresponding in colour with the surrounding web; top of the head, sides of the face and neck, and the hind neck black, the occiput red varied with white; nasal plumes and a superciliary stripe to the occiput, and another stripe passing under the ear-coverts to the hind neck white; from the chin to the under tail-coverts (both inclusive) white, the latter with a few sagittate spots of black; under wing-coverts and axillaries white, the former having a conspicuous black patch on the edge of the wing. Total length 6 inches, culmen 0·65, wing 3·75, tail 2·3, tarsus 0·67; toes (without claws)—outer anterior 0·4, outer posterior 0·47, inner anterior 0·35, inner posterior 0·25.

Young male. Instead of having a red occipital band as in the adult male, the crown-feathers are tipped with red, and have dusky bases crossed by a black bar, a few feathers, chiefly on the occiput, being spotted with dull white; the sides of the body, flanks, thighs, and under tail-coverts with faint dusky stripe-like spots.

Adult female. Differs from the adult male in wanting the red occipital band, the occiput being more or less white. Total length 6 inches, culmen 0·65, wing 3·9, tail 2·43, tarsus 0·65.

Hab. Northern and Eastern North America, north into Alaska, south into Florida. Occasionally occurring in Western North America (Colorado, California, &c.).

a. ♂ ad. sk.	Golsova River, Alaska, Jan. (*E. W. Nelson*).	Henshaw Coll. [S.-G.].
b, c. ♂ ♀ ad. sk.	Nulato, Alaska, March (*E. W. Nelson*).	Henshaw Coll. [S.-G.].
d. ♂ ad.; *e, f, g.* ♀ ad. sk.	Canada.	Tweeddale Coll.
h. ♂ ad. sk.	Hudson's Bay.	Gould Coll.
i, k. ♂ ♀ ad. sk.	Fort Dufferin.	N. A. Boundary Commission.
l, m. ♂ ♀ ad. sk.	Niagara Falls.	Gould Coll.
n, o. ♂ ♀ ad. sk.	Waukegan, Illinois, April (*E. W. Nelson*).	Henshaw Coll. [S.-G.].

p. ♀ ad. sk.	Evanston, Illinois, April (*E. W. Nelson*).	Henshaw Coll. [S.-G.].
q. ♀ ad. sk.	Pine, Indiana, Sept. (*E. W. Nelson*).	
r, s. ♂ ad. sk.	Lyons Falls, N. Y., April (*A. Jenings Dayan*).	
t–b'. ♂ ad. et imm.; *c'–h'*. ♀ ad. et imm. sk.	Locust Grove, New York, Apr.–Nov. (*Hart Merriam*).	
i'. ♀ ad. sk.	Lowville, N. Y., July (*A. Jenings Dayan*).	
k'–o'. ♂ ad. sk.	Leyden, N. Y., Sept., Dec. (*Hart Merriam*).	
p'. ♀ ad. sk.	East Hampton, Massachusetts, Oct. (*Hart Merriam*).	
q', r'. ♀ ad. sk.	Concord, Mass., Oct., Nov. (*Henshaw*).	
s'. ♂ ad. sk.	Cambridge, Mass., Oct. (*Henshaw*).	
t'. ♂ ad. sk.	Watertown, Mass., Nov. (*Henshaw*).	
u', v', w'. ♀ ad. sk.	Wellesley, Mass., Sept., Oct. (*Henshaw*).	
x'–b''. ♂ ad.; *c''–f''*. ♀ ad. sk.	New Haven, Connecticut, Oct., Nov. (*Hart Merriam*).	
g''. ♀ ad. sk.	Elizabeth, New Jersey, Mar. (*Hart Merriam*).	
h''–o''. ♂ ad. et juv.; *p'', q'', r''*. ♀ ad. sk.	Washington, D. C., Feb.–Dec. (*Henshaw*).	
s'', t''. ♂ ♀ ad. sk.	Washington, D. C., Nov.	Salvin-Godman Coll.
u''. ♂ ad. sk.	Virginia.	Tweeddale Coll.
v'', w''. ♂ ♀ ad. sk.	Falls Church, Virginia, Nov. (*Henshaw*).	Henshaw Coll. [S.-G.].
x'', y''. ♀ ad. sk.	Miami, Florida, Dec. (*Henshaw*).	Henshaw Coll. [S.-G.].
z''. Skeleton.	N. America.	

Subsp. α. **Dendrocopus gairdneri.**

Picus gairdneri, *Aud. Orn. Biogr.* v. p. 317 (1839); *id. Syn. N. Amer. B.* p. 180 (1839); *id. B. Amer.* iv. p. 252 (1842); *Gray, Gen. B.* ii. p. 435 (1845); *Reichenb. Scans. Picinæ*, p. 375, no. 865 (1854); *Sclat. P. Z. S.* 1857, p. 127; *Baird, B. N. Amer.* p. 91, pl. lxxxv. figs. 2, 3 (1858); *Sclat. P. Z. S.* 1859, p. 236; *Coop. & Suckl. Nat. Hist. Wash. Terr.* p. 159 (1860); *Malh. Picidæ*, i. p. 123 (1861); *Sclat. Cat. Amer. B.* p. 334, no. 1994 (1862); *Cass. Proc. Philad. Acad.* 1863, p. 201; *Coues, Ibis*, 1865, p. 162; *Sundev. Consp. Av. Picin.* p. 17 (1866); *Baird, Ibis*, 1867, p. 270; *Brown, op. cit.* 1868, p. 419; *Gray, List Picid. Brit. Mus.* p. 44 (1868); *id. Hand-l. B.* ii. p. 184, no. 8591 (1870); *Coop. B. Calif. ed. Baird*, i. p. 377 (1870); *Aiken, Proc. Bost. Soc.* 1872, p. 206; *Coues, B. N.-West*, p. 282 (1874); *Belding, Proc. U. S. Nat. Mus.* 1878, pp. 390, 391, 393.

Picus meridionalis, *Nutt. Man. Orn.* i. p. 690 (1840); *Gamb. Journ. Philad. Acad.* 1847, p. 55; *Heerm. P. R. R. Rep.* x. pt. vi. p. 57 (1859).
Trichopicus gairdneri, *Bp. Consp. Volucr. Zygod.* p. 8, no. 48 (1854).
Trichopicus leucurus (*Würt.*), *Hartl. Naum.* ii. p. 55 (1852); *Bp. Consp. Volucr. Zygod.* p. 8, no. 42 (1854).
Picus leucurus, *Malh. Picidæ*, i. p. 122 (1861).
Picus turati, *Malh. Picidæ*, i. p. 125, pl. xxix. figs. 5, 6, ♂ ♀ (1861); *Gray, Hand-l. B.* ii. p. 185, no. 8597 (1870).
Dryobates gairdneri, *Cab. & Heine, Mus. Hein.* iv. p. 64 (1863).
Dryobates turatii, *Cab. & Heine, Mus. Hein.* iv. p. 65 (1863).
Dryobates homorus, *Cab. & Heine, Mus. Hein.* iv. p. 65 (1863).
Dryobates leucurus, *Cab. & Heine, Mus. Hein.* iv. p. 65 (1863).
Picus homorus, *Gray, Hand-l. B.* ii. p. 185, no. 8596 (1870).
Picus pubescens, var. gairdneri, *Coues, Key N. Amer. B.* 1872, p. 194; *B., B., & R. Hist. N. Amer. Bds.* ii. p. 512 (1874); *Hensh. Ann. Lyc. Nat. Hist. N. York*, 1874, p. 9; *id. U. S. Geogr. Surv. W. of* 100*th Merid.* p. 388 (1875); *Beld. Proc. U. S. Nat. Mus.* 1878, p. 428.
Picus pubescens gairdneri, *Ridgw. Proc. U. S. Nat. Mus.* 1880, p. 188, no. 361 *a*; *Coues, Check-list N. Amer. B.* 1882, p. 77, no. 441; *id. Key N. Amer. B.* 2nd ed. 1884, p. 483; *Drew, Auk*, 1885, p. 17.
Dryobates pubescens gairdneri, *A. O. U. Check-list N. Amer. B.* p. 211, no. 394 *a* (1886); *Scott, Auk*, 1886, p. 426; *Ridgw. Man. N. Amer. B.* p. 283 (1887).
Dryobates pubescens orœcus, *Batchelder, Auk*, 1889, p. 253 *.
Dryobates pubescens fumidus, *Mayn. Orn. & Ool.* 1889, p. 58.

Adult male. Resembles *D. pubescens*, but differs in having the wing-coverts either entirely uniform, or with, at most, a few small spots of white upon the greater series; the spots on the quills smaller and fewer, and sometimes entirely wanting on the innermost secondaries; the under surface of the body darker, varying from smoky white to pale brown or smoky brown. Total length 6 inches, culmen 0·7, wing 3·9, tail 2·35, tarsus 0·6; toes (without claws)—outer anterior 0·4, outer posterior 0·5, inner anterior 0·3, inner posterior 0·25.

Adult female. Differs from the adult male in the absence of red on the occiput, the occipital band being white, slightly striped with black. Total length 6 inches, culmen 0·7, wing 3·8, tail 2·45, tarsus 0·65.

Nestling female. Differs from the adult of the same sex in being of a less intense black above, and slightly browner; the occiput wanting the white band, or having at most a few dull-white stripe-like spots; upon the crown a few spots of dull red. In two females of the same age, one has the sides of the body, flanks, and thighs striped with dusky black, and in the other these striations are almost wanting. The nestlings differ, like the adults, in the coloration of the underparts, some being very dark.

* In my opinion barely worthy of subspecific rank.

Hab. Western United States, from the Pacific to the Rocky Mountains, north into British Columbia, south into Arizona and New Mexico.

a, b. ♂ ♀ ad. st.	British Columbia.	J. K. Lord, Esq. [P.].
c, d. ♂ ♀ ad. sk.	British Columbia.	J. K. Lord, Esq. [P.].
e, f. ♂ ♀ ad. sk.	Vancouver Island.	J. K. Lord, Esq. [P.].
g, h. ♂ ♀ ad. sk.	Vancouver Island, April (*A. Forrer*).	Salvin-Godman Coll.
i. ♂ ad. sk.	Walla Walla, Washington State, Oct. (*Henshaw*).	
k. ♂ ad. sk.	Columbia River, Oregon, Oct. (*H. Wheeler*).	
l. ♀ ad. sk.	Albany, Oregon, Jan. (*Henshaw*).	Henshaw Coll. [S.-G.].
m. ♂ ad. sk.	Umatilla Agency, Oregon, Aug. (*Henshaw*).	
n. ♂ ad. sk.	Dalles, Oregon, Nov. (*Henshaw*).	
o, p. ♂ ♀ ad. sk.	California.	Sclater Coll.
q. ♀ ad. sk.	Monterey, California, Oct. (*Henshaw*).	Henshaw Coll. [S.-G.].
r. ♀ ad. sk.	Los Alamos, California, Nov. (*Henshaw*).	Henshaw Coll. [S.-G.].
s. ♂ ad. sk.	Fort Crook, California, Jan. (*D. F. Parkinson*).	Salvin-Godman Coll.
t. ♂ ad. sk.	San Bernardino, California (*W. E. Lawson*).	
u. ♂ ad. sk.	Visalia, California, Jan. (*Henshaw*).	
v. ♀ ad. sk.	Redwood, California, April (*Henshaw*).	Henshaw Coll. [S.-G.].
w. ♂ ad. sk.	Walker's Basin, California, Nov. (*H. Wheeler*).	
x, y. ♂ ad.; *z.* ♀ imm.; *a'*. Juv. sk.	Santa Fé Mts., New Mexico, July, Sept. (*Henshaw*).	

16. Dendrocopus stricklandi.

Picus (Leuconotopicus) stricklandi, *Malh. Rev. Zool.* 1845, p. 373.

Picus stricklandi, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 327; *id. Bull. Soc. d'Hist. Nat. Moselle*, 1849, p. 14; *Bp. Consp. Gen. Av.* i. p. 137 (1850); *Sclat. P. Z. S.* 1859, p. 367; *Malh. Picidæ*, i. p. 108, pl. xxviii. (descr. & figs. of ♀ & ♂ juv. only) (1861); *Sclat. Cat. Amer. B.* p. 334, no. 1991 (1862); *Sundev. Consp. Av. Picin.* p. 20 (1866), pt.; *Sclat. & Salv. Nomencl. Av. Neotr.* p. 99 (1873); *Salv. Cat. Strickl. Coll.* p. 387, no. 1894 (1882), ♀*; *Harg. Ibis*, 1886, pp. 112–114.

Phrenopicus stricklandi, *Bp. Consp. Volucr. Zygod.* p. 8, no. 36 (1854).

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* This is a true *D. stricklandi* of Malherbe, and a very rare species in collections.

Picus cancellatus (*non Wagl.*), *Sclat. P. Z. S.* 1856, p. 308.
Threnopipo stricklandi, *Cab. & Heine, Mus. Hein.* iv. p. 71 (1863).
Dryobates stricklandi, *Ridgw. Man. N. Amer. B.* p. 286 (1887).

Adult male. Back and rump barred blackish brown and white; scapulars, wing-coverts, and quills blackish brown, the primaries and outer secondaries spotted with white upon both webs, the inner webs only of the inner secondaries being spotted; shafts reddish brown; upper tail-coverts and the four central tail-feathers uniform brownish black, the next feather black, with an apical bar and spots of buffy white, the two outer large feathers on either side buffy white, narrowly barred with black; shafts corresponding in colour with the surrounding web; nasal plumes rusty brownish white; forehead and crown brownish black, the occiput scarlet; sides of the face and neck brownish black, with a short white stripe from above the eye running backwards, and another white stripe from the loral region running under the ear-coverts and then crossing the neck to the nape, but not uniting on the latter region with the corresponding stripe; from the chin to the under tail-coverts, both inclusive, white; the chin and throat, chest, breast, and sides of the body striped or longitudinally spotted with black, the flanks, thighs, and under tail-coverts having the markings more barred, the abdomen and vent spotted: under wing-coverts and axillaries white, with dusky varied markings and spots. Total length 7·5 inches, culmen 0·92, wing 4·6, tail 2·6, tarsus 0·82; toes (without claws) —outer anterior 0·5, outer posterior 0·55, inner anterior 0·4, inner posterior 0·28.

Adult female. Differs from the adult male in the absence of the red occipital band. Total length 7 inches, culmen 0·77, wing 4·4, tail 2·45, tarsus 0·8.

Young male. Differs from the adult of both sexes in having the crown red, the black striations on the underparts broader, and the flanks and thighs distinctly barred with dusky black; the primaries narrowly margined with greyish at the tip.

Hab. South-eastern Mexico (Jalapa &c.).

a. ♀ ad. sk.	Xochimilco, Tetelco, Jan.	Salvin-Godman Coll.
b. ♂ ad. sk.	Jalapa (*de Oca*).	Sclater Coll.
c. ♂ ad. sk.	Las Vigas, Jalapa, Aug.	Salvin-Godman Coll.

17. Dendrocopus nuttalli.

Picus nuttalli, *Gamb. Proc. Philad. Acad.* 1843, p. 259; *Sclat. P. Z. S.* 1857, p. 127; *id. op. cit.* 1858, p. 3; *Baird, B. N. Amer.* p. 93, pl. xli. fig. 2 (1858); *Malh. Picidæ*, i. p. 100, pl. xxiv. figs. 8, 9, ♂ ♀ (1861); *Cass. Proc. Philad. Acad.* 1863, p. 195; *Sundev. Consp. Av. Picin.* p. 19 (1866); *Baird, Ibis*, 1867, p. 270; *Gray, List Picid. Brit. Mus.* p. 49 (1868); *id. Hand-l. B.* ii. p. 185, no. 8607 (1870); *Coop. B. Calif. ed. Baird*, p. 378, head of ♂ figd. (1870); *B., B., & R. Hist. N. Amer. B.* ii. p. 521, pl. l. figs. 3 ♂ ad., 6 ♀ ad. (1874); *Ridgw. Orn. 40th Par.* p. 547 (1877); *Beld. Proc. U.S. Nat. Mus.* 1878, p. 428; *Coop. op. cit.* 1879, p. 250; *Ridgw. op. cit.* 1880, p. 189, no. 364.

Picus scalaris (*non Wagl.*), *Gamb. Journ. Philad. Acad.* 1847, p. 55, pl. ix. figs. 2, 3, ♂ ♀.
Picus wilsoni, *Malh. Rev. de Zool.* 1849, p. 529; *Bp. Consp. Gen. Av.* i. p. 138 (1850); *Reichenb. Scans. Picinæ*, p. 375, no. 867 (1854).
Trichopicus wilsoni, *Bp. Consp. Volucr. Zygod.* p. 8, no. 47 (1854).
Dictyopipo nuttalli, *Cab. & Heine, Mus. Hein.* iv. p. 75 (1863).
Picus scalaris, var. nuttallii, *Coues, Key N. Amer. B.* 1872, p. 193.
Picus scalaris nuttalli, *Coues, Check-list N. Amer. B.* 1882, p. 77, no. 435; *id. Key N. Amer. B.* 2nd ed. 1884, p. 482, fig. 332.
Dryobates nuttalli, *Everm. Auk*, 1886, p. 94; *A. O. U. Check-list N. Amer. B.* p. 212, no. 397 (1886); *Ridgw. Man. N. Amer. B.* p. 285 (1887).

Adult male. Resembles *D. scalaris*, but may be distinguished from the latter by its larger size, in having the black bars on the back very much broader, and a broad belt of black on the upper part o the back; the lateral tail-feathers only barred on the apical portion; the nasal plumes broadly tipped with black; the forehead and crown black, striped with white, and devoid of red, the latter colour being confined to the occiput and nape; the face, neck, and underparts very much whiter, the face and neck being almost pure white: the auricular and the malar stripes very broad and of a jet-black, and, after uniting, running on to the shoulders: the spots on the sides of the body larger, and the stripes on the sides of the chest broader. Total length 6·7 inches, culmen 0·95, wing 4·05, tail 2·65, tarsus 0·75; toes (without claws)—outer anterior 0·45, outer posterior 0·55, inner anterior 0·45, inner posterior 0·25.

Young male. Has no red on the occiput or nape, these being black; the forehead and crown black, with more or less stripe-like spots of white, the coronal feathers being tipped with red.

Adult female. Has the forehead and crown, occiput and nape uniform deep black, or with, at most, one or two spots of white on the sides of the occiput: "iris brown; bill black; feet grey" (*Dr. Cooper*). Total length 6·5 inches, culmen 0·87, wing 4·1, tail 2·63, tarsus 0·75.

Hab. California, and extending north into Oregon.

a, *b*. ♂ ♀ ad. sk.	Ashland, Oregon, Feb. (*Henshaw*).	Henshaw Coll. [S.-G.].
c, *d*. ♂ ♀ ad.; *e*. ♂ imm. sk.	California.	Purchased.
f. ♂ ad.; *g*. ♀ imm. sk.	California.	Sclater Coll.
h, *i*. Juv. sk.	California.	Tweeddale Coll.
k. ♂ ad. sk.	Galt, San Joaquin Co., California, April (*Bryant*).	Henshaw Coll. [S.-G.].
l. ♂ ad. sk.	Redwood, California (*Henshaw*).	
m. ♂ imm. sk.	Kernville, Oct. (*Henshaw*).	
n, *o*. ♂ ♀ ad. sk.	Jolon, Oct. (*Henshaw*).	
p. ♀ juv. sk.	Fort Tejon, Aug. (*Wheeler*).	
q. ♂ ad. sk.	Tejon Mts., Aug. (*Henshaw*).	

r. ♂ ad. sk.	Stockton, Dec. (*Henshaw*).	Henshaw Coll. [S.-G.].
s. ♀ ad. sk.	Los Alamos, Cal., Nov. (*Henshaw*).	Henshaw Coll. [S.-G.].
t, u. ♂ ♀ ad. sk.	Greenwood V., Eldorado Co., Cal., Jan., Feb. (*A. Forrer*).	Salvin-Godman Coll.
v. ♀ ad. sk.	San Bernardino, May (*F. Stephens*).	G. Frean Morcom, Esq. [P.].
w. ♀ juv. sk.	Oakland (*Bryant*).	Henshaw Coll. [S.-G.].
x. ♀ ad. sk.	Santa Inez, Sept. (*Henshaw*).	Henshaw Coll. [S.-G.].

18. Dendrocopus scalaris.

Picus scalaris, *Wagl. Isis*, 1829, p. 511; *Gray, Gen. B.* ii. p. 435 (1845); *Bp. Consp. Gen. Av.* i. p. 138 (1850); *Licht. Nomencl. Av.* 1854, p. 75; *Reichenb. Scans. Picinæ*, p. 377, no. 870, pl. dcxxxix. figs. 4264–66, ♂ ♂ ♀ (1854); *Sclat. P. Z. S.* 1856, p. 307; *Baird, U.S. & Mex. Bound. Surv.* 1858, p. 5, pl. iii. fig. 1, ♂; *id. B. N. Amer.* p. 94 (1858); *Sclat. & Salv. Ibis*, 1859, p. 136; *Sclat. P. Z. S.* 1859, p. 367; *Malh. Picidæ*, i. p. 116, pl. xxvii. figs. 1–4 (1861); *Sclat. Cat. Amer. B.* p. 333, no. 1988 (1862); *Coues, Ibis*, 1865, p. 159; *Dresser, t. c.* pp. 313, 468; *Sundev. Consp. Av. Picin.* p. 18 (1866); *Baird, Ibis*, 1867, p. 270; *Gray, List Picid. Brit. Mus.* p. 48 (1868); *Elliot, New & Unfig. B. N. Amer.* i. Introd. p. 7 (1869); *Lawr. Ann. Lyc. N. York*, 1869, p. 205; *Gray, Hand-l. B.* ii. p. 185, no. 8605 (1870); *Cooper, B. Calif. ed. Baird*, p. 379 (heads figured p. 380) (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 99 (1873); *B., B., & R. Hist. N. Amer. B.* ii. p. 515, pl. l. figs. 4, 5, ♂ ♀ ad. (1874); *Henshaw, U.S. Geogr. Surv. W. of 100th Merid.* 1875, p. 590; *Lawr. Bull. U.S. Nat. Mus.* iv. p. 34 (1876); *Merrill, Proc. U.S. Nat. Mus.* 1878, p. 150; *Sennett, Bull. U.S. Geol. Surv.* iv. p. 415 (1879); *Ridgw. Proc. U.S. Nat. Mus.* 1880, pp. 189, 233, no. 363; *Coues, Check-list N. Amer. B.* 1882, p. 77, no. 434; *Salv. Cat. Strickl. Coll.* p. 387, no. 1893 (1882); *Boucard, P. Z. S.* 1883, p. 52; *Coues, Key N. Amer. B.* 2nd ed. p. 481 (1884); *Salv. Ibis*, 1885, p. 191.

Picus gracilis, *Less. Rev. Zool.* 1840, p. 41.

Picus parvus, *Cabot, Bost. Journ. Nat. Hist.* v. p. 92 (1845); *Gray, Gen. B.* iii. *App.* p. 21 (1849).

Dyctiopicus scalaris, *Bp. Consp. Volucr. Zygod.* p. 8, no. 32 (1854).

Picus scalaris, var. d'orizaba, *Malh. Picidæ*, pl. xxvii. fig. 6 (1861).

Picus bairdi, *Malh. Picid.* i. p. 118, pl. xxvii. figs. 7, 8, ♂ ♀ (1861); *Sclat. Cat. Amer. B.* p. 333, no. 1987 (1862); *Cassin, Proc. Acad. Philad.* 1863, p. 196; *Sclat. P. Z. S.* 1864, p. 177; *Gray, List Picid. Brit. Mus.* p. 48 (1868); *id. Hand-l. B.* ii. p. 186, no. 8609 (1870); *Coues, Key N. Amer. B.* 1872, p. 193.

Picus vagatus, *Cassin, Proc. Acad. Philad.* 1863, p. 196; *id. Journ. Acad. Philad.* 1863, pl. lii. fig. 1, ♂; *Gray, List Picid. Brit. Mus.* p. 49 (1868); *id. Hand-l. B.* ii. p. 186, no. 8610 (1870).

Dictyopipo scalaris, *Cab. & Heine, Mus. Hein.* iv. p. 74 (1863).

Picus orizabæ, *Cass. Proc. Acad. Philad.* 1863, p. 196.

Dryobates scalaris, *Scott, Auk*, 1886, p. 426; *A. O. U. Check-list N. Amer. B.* p. 212, no. 396 (1886); *Lloyd, Auk*, 1887, p. 190; *Salv. Ibis*, 1889, p. 368.

Dryobates scalaris parvus, *Ridgw. Man. N. Amer. B.* p. 284 (1887).

Dryobates scalaris bairdi, *Ridgw. Man. N. Amer. B.* pp. 284, 285 (1887).

Dryobates scalaris sinaloensis, *Ridgw. Man. N. Amer. B.* p. 285 (1887)*.

Adult male. Entire back, rump, and scapulars barred black and white; upper tail-coverts black; wing-coverts, bastard-wing, and primary-coverts black, spotted with white; quills black, spotted with white on both webs, the innermost feathers barred across with white; shafts brownish black; four central tail-feathers uniform black, the next one black, spotted on the apical half of the outer web and tipped with buffy white, the two outer large feathers on either side (except the base of the inner web of the innermost) buffy white or pure white barred with black; shafts corresponding in colour with the surrounding web; nasal plumes smoky brown; forehead black, spotted with white; crown and occiput crimson, the feathers of the crown spotted with white and having dusky black bases; nape black, the lower part of the hind neck barred with white; lores and face creamy or brownish white, the side of the neck slightly darker; a black auricular and malar stripe, the two uniting behind the ear-coverts; chin dull white, the throat, chest, and breast sandy brown, the remainder of the underparts and under tail-coverts dull white, the sides of the chest and breast spotted with black, the flanks and thighs with bar-like markings of the same, the vent having more sagittate spots, and the under tail-coverts with bars or sagittate spots of black; under wing-coverts white, barred with black; on the edge of the wing a conspicuous spot of blackish brown; axillaries sandy white, transversely spotted with black. Total length from 6·8 to 5·8 inches, culmen 0·9 to 0·8, wing 4·2 to 3·55, tail 2·45 to 2, tarsus 0·72 to 0·66; toes (without claws)—outer anterior 0·52 to 0·46, outer posterior 0·57 to 0·54, inner anterior 0·42 to 0·4, inner posterior 0·28 to 0·25.

Young male. Resembles, generally, the adult of the same sex, but has the red on the head confined to a dull crimson spot or quadrate patch on the crown, the hinder part of the crown and the occiput being black; the sides of the face and neck are duller than in the adult, and the ground-colour of the under surface of the body is more of a smoky white and wants the sandy-brown tint on the throat, chest, and breast.

Adult female. Differs from the adult male in having the forehead, crown, and occiput uniform black.

Texan examples run large, and the species decreases in size towards South-east Mexico, the minimum being reached in Yucatan. The typical bird is evidently that from South-east Mexico; the Texas bird is known as *D. bairdi*, and the small Yucatan bird bears

* From an examination of Dr. Ridgway's type, I was at first inclined to think that the Sinaloa bird might be separated from the true *D. scalaris*; but after studying the extensive collections from Mexico, recently presented to the Museum by Messrs. Salvin and Godman, I am induced to unite *D. sinaloensis* with *D. scalaris*.

the name of *D. parvus*. I have united these three so-called species, as I fail to find any character (except size) upon which to separate them. In specimens from Southern Mexico the black auricular stripe is, if anything, less broad, and its union behind the ear-coverts with the malar stripe is not always complete. *D. scalaris* has occasionally the primary-coverts unspotted, as in *D. graysoni* from the Tres Marias Islands, but this is as exceptional as is that of the latter species having an occasional spot on these feathers.

Hab. Southern border of United States, from Texas to Arizona, south through almost the whole of Mexico, and extending into Yucatan and Cozumel Island.

a, *b*. ♂ ♀ ad. sk.	San Gorgonia Pass, Cal., Nov. (*R. B. Herron*).	
c. ♀ imm. sk.	Apache, Arizona, Sept. (*Newberry*).	
d. ♀ ad. sk.	San Pedro, Arizona, Oct. (*Wheeler*).	
e, *f*, *g*. ♂ ad.; *h*. ♀ ad. sk.	Tucson, Arizona, Dec. (*Henshaw*).	Henshaw Coll.
i, *k*. ♂ ♀ ad. sk.	Gila Co., Arizona, Oct., Nov. (*Henshaw*).	[S.-G.].
l. ♂ ad. sk.	Gila River, Arizona, Oct. (*Henshaw*).	
m, *n*. ♂ ♀ ad. sk.	Grant Co., New Mexico, Mar., April (*A. W. Anthony*).	
o. ♂ ad. sk.	Laredo, Rio Grande, Texas (*H. B. Butcher*).	
p, *q*. ♂ ad.: *r*. ♀ ad. sk.	Presidio Co., Texas, Dec.	Salvin-Godman Coll.
s, *t*. ♂ ♀ ad. sk.	San Antonio, Texas (*H. E. Dresser*).	Salvin-Godman Coll.
u. ♂ ad. sk.	San Antonio (*H. E. Dresser*).	Sclater Coll.
v. ♂ ad. sk.	San Diego, Duval Co., Texas, Dec. (*F. B. Armstrong*).	Salvin-Godman Coll.
w–*z*. ♂ ad.; *a'*, *b'*, *c'*. ♀ ad. sk.	Corpus Christi, Texas, Oct., Nov., Dec. (*F. B. Armstrong*).	Salvin-Godman Coll.
d', *e'*, *f'*. ♂ ad.; *g'*–*k'*. ♀ ad. sk.	Hidalgo, Texas, April (*F. B. Armstrong*).	Salvin-Godman Coll.
l'. ♀ ad. sk.	Papalote, Bee Co., Texas, Feb. (*F. B. Armstrong*).	Salvin-Godman Coll.
m'. ♀ ad. sk.	Brownsville, Texas, March (*F. B. Armstrong*).	Salvin-Godman Coll.
n', *o'*. ♂ ad.; *p'*. ♀ ad. sk.	Nuevo Leon, Mexico, May (*F. B. Armstrong*).	Salvin-Godman Coll.
q', *r'*. ♂ ad.; *s'*, *t'*, *u'*. ♀ ad. sk.	Nuevo Laredo, Tamaulipas, March (*F. B. Armstrong*).	Salvin-Godman Coll.
v'. ♂ ad. sk.	Hermosillo, Sonora, Oct.	Salvin-Godman Coll.
w', *x'*. ♂ imm. sk.	Sonora, Mexico, April (*W. Lloyd*).	Salvin-Godman Coll.
y'. ♀ ad. sk.	Moctezuma, Sonora, Sept.	Salvin-Godman Coll.
z'. ♂ ad. sk.	Indines, Chihuahua, Nov. (*W. Lloyd*).	Salvin-Godman Coll.
a'', *b''*. ♂ ♀ ad. sk.	Presidio, Jan., Mar. (*A. Forrer*).	Salvin-Godman Coll.
c''. ♂ imm.; *d''*, *e''*. ♀ ad. sk.	Agnas Calientes, Aug. (*W. B. Richardson*).	Salvin-Godman Coll.

f'', *g''*. ♂ ♀ ad. sk.	Santana, Guadalajara, Jalisco, Feb. (*W. Lloyd*).	Salvin-Godman Coll.
h''. ♂ ad. sk.	Zapotlan, Jalisco, April (*W. Lloyd*).	Salvin-Godman Coll.
i''. ♂ ad. sk.	Beltran, Jalisco, April (*W. Lloyd*).	Salvin-Godman Coll.
k''. ♂ ad. sk.	Zacoalco, Jalisco, March (*W. Lloyd*).	Salvin-Godman Coll.
l''. ♂ ad. sk.	Huayimic, Sierra Madre, 6000 ft., June (*W. B. Richardson*).	Salvin-Godman Coll.
m''. ♂ ad. sk.	Plains of San Luis Potosi, July (*W. B. Richardson*).	Salvin-Godman Coll.
n'', *o''*. ♂ ♀ ad. sk.	Sierra Madre, above Ciudad Victoria, Tamaulipas (*W. B. Richardson*).	Salvin-Godman Coll.
p''. ♀ ad. sk.	Soto la Marina, Tamaulipas, April (*W. B. Richardson*).	Salvin-Godman Coll.
q''–*t''*. ♂ ad.; *u''*, *v''*. ♀ ad. sk.	Aldama, Tamaulipas, March (*W. B. Richardson*).	Salvin-Godman Coll.
w''. ♂ ad. sk.	Tamaulipas (*W. B. Richardson*).	Salvin-Godman Coll.
x''. ♀ ad. sk.	Tampico, Tamaulipas (*W. B. Richardson*).	Salvin-Godman Coll.
y''. ♀ ad. sk.	Jalapa (*C. F. Höge*).	Salvin-Godman Coll.
z'', *a*³. ♂ ad. sk.	Jalapa (*F. D. G.*).	Salvin-Godman Coll.
*b*³. ♂ imm. sk.	Tlacolula (*Rébouch*).	Tweeddale Coll.
*c*³. ♀ ad. sk.	Atlisco, Mexico.	Purchased.
*d*³. ♀ ad. sk.	San Andres, March.	Salvin-Godman Coll.
*e*³. ♂ ad. sk.	Cordova, Mexico.	Salvin-Godman Coll.
*f*³, *g*³. ♂ ♀ ad. sk.	Orizaba (*Botteri*).	Sclater Coll.
*h*³. ♀ ad. sk.	Near the City of Mexico.	Salvin-Godman Coll.
*i*³. ♀ ad. sk.	Tetelco, Tlalpam, Aug.	Salvin-Godman Coll.
*k*³. ♂ imm. sk.	Tetelco, Xochimilco, May.	Salvin-Godman Coll.
*l*³. ♀ ad. sk.	Pinal, Puebla, Mexico, April (*F. D. G.*).	Salvin-Godman Coll.
*m*³. ♂ ad. sk.	Chietla, Chiantla, Puebla, Nov.	Salvin-Godman Coll.
*n*³. ♀ ad. sk.	San Miguel Molino, Huejotzingo, Puebla, May.	Salvin-Godman Coll.
*o*³. ♂ ad. sk.	Sola, Oaxaca, April (*M. Trujillo*).	Salvin-Godman Coll.
*p*³, *q*³. ♀ ad. et juv. sk.	Juchatengo, Oaxaca, April (*M. Trujillo*).	Salvin-Godman Coll.
*r*³. ♀ ad. sk.	Oaxaca, W. Mexico (*Fenochio*).	Salvin-Godman Coll.
*s*³. ♀ ad. sk.	Amula, Guerrero, Aug. (*Mrs. H. H. Smith*).	Salvin-Godman Coll.
*t*³, *u*³. ♂ ♀ ad.; *v*³, *w*³. ♂ ♀ imm.; *x*³. Juv. sk.	Mexico.	Sclater Coll.
*y*³. Ad. sk.	Mexico.	Purchased.
*z*³. ♂ ad.; *a*⁴, *b*⁴, *c*⁴. ♀ ad. sk.	Mexico.	Gould Coll.
*d*⁴. ♀ ad. sk.	Northern Yucatan (*G. F. Gaumer*).	Salvin-Godman Coll.
*e*⁴. ♂ ad. sk.	Merida, N. Yucatan (*G. F. Gaumer*).	Salvin-Godman Coll.
*f*⁴. ♀ ad. sk.	Tizimin, N. Yucatan, June (*G. F. Gaumer*).	Salvin-Godman Coll.
g.⁴ ♂ ad. sk.	Chable, N. Yucatan, Dec. (*G. F. Gaumer*).	Salvin-Godman Coll.
*h*⁴. ♂ ad. sk.	Cozumel Island (*E. C. J. Devis*).	Salvin-Godman Coll.

Subsp. *a*. Dendrocopus lucasanus.

Picus lucasanus, *Xantus, Proc. Acad. Philad.* 1859, p. 302; *Malh. Picid.* i. p. 166 (1861); *Sclat. Cat. Amer. B.* p. 333, no. 1986 (1862); *Gray, List Picid. Brit. Mus.* p. 50 (1868); *Elliot, New & Unfig. B. N. Amer.* i. Introd. p. 7 (1869); *Gray, Hand-l. B.* ii. p. 186, no. 8612 (1870).

Dictyopipo lucasana, *Cab. & Heine, Mus. Hein.* iv. p. 75 (1863).

Picus scalaris, var. lucasanus, *Cooper, B. Calif. ed. Baird*, p. 381, head figured (1870); *B., B., & R. Hist. N. Amer. B.* ii. p. 519 (1874).

Picus scalaris lucasanus, *Ridgw. Proc. U. S. Nat. Mus.* 1880, pp. 189, 219, 229, no. 363 *a*; *Coues, Check-list N. Amer. B.* 1882, p. 77, no. 436; *Belding, Proc. U. S. Nat. Mus.* 1882, p. 543; *id. op. cit.* 1883, pp. 344, 345, 349; *Coues, Key N. Amer. B.* 2nd ed. 1884, p. 482.

Dryobates scalaris lucasanus, *A. O. U. Check-list*, p. 212, no. 396 *a* (1886); *Ridgw. Man. N. Amer. B.* p. 285 (1887).

Adult male. Resembles *D. scalaris*, but differs in having the outer webs of the lateral tail-feathers barred only near the tip, the basal two-thirds or three-fourths being uniform; the whole of the hind neck is black and the feathers of the extreme upper back have more black. It is allied to *D. graysoni* by its whiter lateral tail-feathers and conspicuous black patch on the hind neck, but may be distinguished by its spotted primary-coverts and also by its longer bill and larger dimensions. Total length 6·8 inches, culmen 1, wing 4·05, tail 2·55, tarsus 0·76; toes (without claws)—outer anterior 0·55, outer posterior 0·57, inner anterior 0·43, inner posterior 0·28.

Adult female. Has the top of the head and the occiput black like the hind neck. In other points it is similar to the male. Total length 6·5 inches, culmen 0·77, wing 3·9, tail 2·45, tarsus 0·73.

Hab. Southern portion of Lower California.

a. ♂ ad. sk.	La Paz, Lower California, December (*A. Forrer*).	Salvin-Godman Coll.
b, *c*. ♂ ♀ ad. sk.	Cape San Lucas, Lower California, Sept. (*J. Xantus*).	Salvin-Godman Coll.
d. ♂ imm.; *e*. ♀ ad. sk.	Cape San Lucas (*J. Xantus*).	Sclater Coll.
f. ♂ imm. sk.	[Southern Mexico.]	Salvin-Godman Coll.

Subsp. *β*. Dendrocopus graysoni.

Picus scalaris (*non Wagler*), *Grayson, Proc. Bost. Soc. Nat. Hist.* 1871, p. 273.

Picus scalaris, var. graysoni, *Lawr. Mem. Bost. Soc. Nat. Hist.* ii. p. 294 (1874).

Dryobates scalaris graysoni, *Ridgw. Man. N. Amer. B.* p. 285 (1887).

Adult male. Differs from *D. scalaris* in having the outer webs of the lateral tail-feathers barred only on the apical half; the primary-coverts unspotted; the whole of the hind neck black, and the feathers of the extreme upper back with more black, the white being sometimes absent or reduced to a spot, the black forming a conspicuous patch or generally a distinct band; the under surface of the body

is also less spotted with black. Total length 6·3 inches, culmen 0·93, wing 3·9, tail 2·3, tarsus 0·7; toes (without claws)—outer anterior 0·47, outer posterior 0·55, inner anterior 0·43, inner posterior 0·25.

Adult female. Differs from the adult male in wanting the red on the head, the forehead, crown, and occiput being black. Total length 6·2 inches, culmen 0·88, wing 3·95, tail 2·05, tarsus 0·65.

Young male. Has the red on the head confined to the tips of the central crown-feathers, the hinder part of the crown and occiput being black; there is also a greater number of black bars on the outer webs of the lateral tail-feathers. In other respects it is very similar to the adult.

Hab. Tres Marias Islands, Western Mexico.

a, b. ♂ ad. sk. Tres Marias Islands, West Mexico (*A. Forrer*). Salvin-Godman Coll.

19. Dendrocopus borealis.

Picus borealis, *Vieill. Ois. Amér. Sept.* ii. p. 66, pl. cxxii. (1807) *Jard. ed. Wilson's Amer. Orn.* i. p. 251, pl. xv. fig. 1, ♂ (1832); *Baird, B. N. Amer.* p. 96 (1858); *Cav.-Tayl. Ibis*, 1862, p. 128; *Cass. Proc. Acad. Philad.* 1863, p. 203; *Baird, Ibis*, 1867, p. 270; *Gray, List Picid. Brit. Mus.* p. 50 (1868); *id. Hand-l. B.* ii. p. 186, no. 8613 (1870); *Coues, Key N. Amer. B.* 1872, p. 192, fig. cxxix.; *B., B., & R. Hist. N. Amer. B.* ii. p. 524, pl. xlix. fig. 8, ♂ (1874); *Mayn. Bds. E. N. Amer.* p. 244, pl. xix. (1879); *Coues, Key N. Amer. B.* 2nd ed. 1884, p. 481, fig. 331.

Picus querulus, *Bp. Syn. Bds. U. S.* p. 46, no. 44 (1826); *Nutt. Man. Orn.* 1832, p. 577; *Bp. Consp. Gen. Av.* i. p. 137 (1850); *Cass. Proc. Acad. Philad.* 1863, p. 203; *Sundev. Consp. Av. Picin.* p. 21 (1866); *Ridgw. Proc. U. S. Nat. Mus.* 1880, p. 189, no. 362.

Picus vieillotii, *Wagl. Syst. Av.* Picus, sp. 20 (♀) (1827).

Picus leucotis, *Bp. Comp. List B. Eur. & N. Amer.* p. 39, no. 253 (1838); *Licht. Nomencl. Av.* p. 75 (1854).

Threnopipo borealis, *Cab. & Heine, Mus. Hein.* iv. p. 70 (1863).

Dryobates borealis, *A. O. U. Check-list N. Amer. B.* p. 212, no. 395 (1886); *Ridgw. Man. N. Amer. B.* p. 283 (1887); *Scott, Auk*, 1889, p. 251.

Adult male. Back, rump, and scapulars barred black and white; wings and their coverts brownish black, the latter as well as both webs of the quills spotted with white; shafts brown; upper tail-coverts and the four central tail-feathers uniform blackish brown, the next feather having the basal portion obliquely black, and the apical portion white spotted with black at the tip, the two outer large feathers almost entirely white, the inner webs being barred and the apical portion of the outer webs spotted with black; shafts corresponding in colour with the surrounding web; nasal plumes white; entire top of the head, occiput, nape and hind neck, lores, a small stripe-like spot behind the eye, and a long and broad malar stripe intense black; upon the side of the occiput a stripe of red: sides of the face and neck, chin and throat silky white, the entire under surface of the body and the under tail-coverts also

white, the sides of the chest striped, those of the breast spotted, the flanks and thighs barred with black, the under tail-coverts having varied markings (stripes, spots, and bars) of black; under wing-coverts and axillaries white, the lower series of the former having rounded spots of black. Total length 7·8 inches, culmen 0·85, wing 4·75, tail 3·1, tarsus 0·8; toes (without claws)—outer anterior 0·53, outer posterior 0·6, inner anterior 0·42, inner posterior 0·3.

Adult female. Resembles the adult male, but has no scarlet stripe on the side of the occiput. Total length 7·8 inches, culmen 0·85, wing 4·7, tail 3, tarsus 0·75.

Hab. South-eastern United States, from Tennessee and North Carolina to Gulf Coast, and west to Indian Territory and Eastern Texas. Occasionally north to New Jersey.

a. Ad. sk.	N. America.	J. Audubon, Esq. [C.].
b. ♂ ad. sk.	Aiken, S. Carolina April (*Hart Merriam*).	Henshaw Coll. [S.-G.]
c. ♀ ad. sk.	Southern States (*Nelson*).	
d, e. ♂ ad.; *f.* ♀ ad. sk.	Cedar Keys, Florida, Dec., April (*Henshaw*).	
g, h. ♂ ad.; *i–m.* ♀ ad. sk.	Volusia Co., Florida, Feb., March (*B. H. W.*).	
n. ♂ ad.; *o.* ♀ juv. sk.	Clear Water, Florida (*S. T. Walker*).	Salvin-Godman Coll.
p. ♂ ad. sk.	Enterprise, Florida, Feb. (*G. A. Boardman*).	Salvin-Godman Coll.
q. ♂ ad. sk.	Florida (*Maynard*).	Salvin-Godman Coll.
r, s, t. ♂ ad. et imm.; *u, v, w.* ♀ ad. et imm. sk.	Florida, Aug., Sept., Oct. (*W. Hoxie*).	Henshaw Coll. [S.-G.].

20. Dendrocopus minor.

Picus minor, *Linn. Syst. Nat.* i. p. 176 (1766); *Scop. Ann.* i. p. 49 (1769); *Gm. Syst. Nat.* i. p. 437 (1788); *Lath. Ind. Orn.* i. p. 229 (1790); *Penn. Arct. Zool.* i. p 326 (1792); *Lewin, B. Gt. Brit.* ii. p. 42, pl. l. (1796); *Bechst. Orn. Taschenb.* p. 67 (1802); *Blum. Man. d'Hist. Nat.* i. p. 205 (1803); *Bechst. Naturg. Deutschl.* ii. p. 1039 (1805); *Temm. Cat. Syst.* p. 62 (1807); *Meyer & Wolf, Taschenb.* p. 124 (1810); *Meyer, Vög. Liv- u. Esth.* p. 63 (1815); *Meisn. & Schinz, Vög. Schweiz*, p. 41 (1815); *Steph. Gen. Zool.* ix. p. 166, pl. xxxiv. (1815); *Forst. Syn. Cat. Brit. B.* p. 7 (1817); *Nilss. Orn. Suec.* p. 111 (1817); *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 88 (1818); *Temm. Man. d'Orn.* i. p. 399, iii. p. 283 (1820); *Brehm, Naturgesch. Eur. Vög.* i. p. 141 (1823); *Bonn. & Vieill. Enc. Méth.* iii. p. 1304 (1823); *Roux, Orn. Prov.* p. 99, pl. lxii. (1825); *Naum. Vög. Deutschl.* v. p. 334, pl. cxxxvi. (1826); *Risso, Eur. Mérid.* iii. p. 60 (1826); *Valenc. Dict. Sc. Nat.* xl. p. 180 (1826); *Wagl. Syst. Av.* Picus, sp. 25 (1827); *Savi, Orn. Tosc.* i. p. 145 (1827); *Drap. Dict. Classif.* xiii. p. 498 (1828); *Less. Traité*, i. p. 219 (1831); *Brehm, Vög. Deutschl.* p. 193 (1831); *Selby, Ill. Brit. Orn.* i. p. 379 (1833); *Glog. Handb. Naturgesch. Vög. Eur.* p. 461 (1834); *Jenyns, Man. Brit. Vertebr.* p. 151 (1835); *Gould, B. Eur.* (not plate) (1837); *Bp. Comp. List B.*

Eur. & N. Amer. p. 39 (1838); *Keys. & Blas. Wirb. Eur.* pp. 149 & xxxv (1840); *Benoit, Orn. Sicil.* p. 32 (1840); *Schinz, Eur. Faun.* i. p. 263 (1840); *Cara, Orn. Sard.* p. 89 (1842); *Yarr. Hist. Brit. B.* ii. p. 147 (1843); *Schleg. Rer. Crit.* p. 1 (1844); *V. d. Mühle, Orn. Griechenl.* p. 30 (1844); *Gray, Gen. B.* ii. p. 435 (1845); *Bp. Consp. Gen. Av.* i. p. 134 (1850); *Reichenb. Scans. Picinæ*, p. 370, no. 855, pl. dcxxxvi. figs. 4234–35 (1854); *Sundev. Sv. Fogl.* p. 142, pl. xxiii. figs. 4, 5 (1856); *Hewits. Eggs Brit. B.* i. p. 241 (1856); *Loche, Cat. Mamm. et Ois. d'Algér.* p. 92 (1858); *Schrenck, Amur-Reise*, i. p. 263 (1859); *Jaub. & Barth.-Lapomm. Rich. Orn.* p. 331 (1859); *Von Wright, Finl. Fogl.* p. 274 (1859); *Linderm. Vög. Griechenl.* p. 43 (1860); *Powys, Ibis*, 1860, p. 235; *Malh. Picidæ*, i. p. 113, pl. xxvi. figs. 4–7 (1861); *Gould, B. Gt. Brit.* iii. pl. lxxii. figs. ♂, ♀, and juv. (1863); *Salvad. Cat. Ucc. Sard.* p. 33 (1864); *Prév. & Lem. Hist. Nat. Ois. d'Eur.* p. 170 (1864); *More, Ibis*, 1865, p. 136; *Sundev. Consp. Av. Picin.* p. 25 (1866); *Lilf. Ibis*, 1866, p. 183; *Degl. & Gerbe, Orn. Eur.* i. p. 153 (1867); *Bettoni, Ucc. Lomb.* ii. pl. lxxviii. (1868); *Gray, List Picid. Brit. Mus.* p. 36 (1868); *Borggr. Vög.-Faun. Norddeutschl.* p. 68 (1869); *Gray, Hand-l. B.* ii. p. 182, no. 8558 (1870); *Elw. & Buckl. Ibis*, 1870, p. 188; *Fritsch, Vög. Eur.* p. 69 (1870), pl. xv. (1871); *Gurn. jun. Ibis*, 1871, p. 294; *Salvad. Faun. Ital., Ucc.* p. 39 (1871); *Saund. Ibis*, 1871, p. 66; *Hart. Handb. Brit. B.* p. 32 (1872); *Dress. B. Eur.* v. p. 53, pl. cclxxxii. (1872); *Elw. P. Z. S.* 1873, p. 649; *Alst. & Harv.-Br. Ibis*, 1873, p. 59; *Brooke, t. c.* p. 236; *Perini, Man. Orn. Veron.* i. p. 405 (1874); *Danf. & Harv.-Br. Ibis*, 1875, p. 299; *D'Hamonv. Cat. Ois. d'Eur.* p. 10 (1876); *Saund. Bull. Soc. Zool. Fr.* 1876, p. 324; *Tacz. op. cit.* 1877, p. 152; *Schleg. Vog. Nederl.* i. p. 40, pl. v. figs. 12, 13 (1878); *Seeb. Ibis*, 1879, p. 29; *Elw. op. cit.* 1880, p. 396; *Blakist. & Pryer, Trans. As. Soc. Jap.* 1880, p. 207; *Madar. Syst. Aufz. Vög. Ungarns*, p. 23 (1881); *Carls. Kongl. Vet.-Akad. Förhandl.* 1882, i. p. 30; *Bolau, J. f. O.* 1882, p. 337; *Marsch. & Pelz. Orn. Vindob.* 1882, p. 92; *Seeb. Ibis*, 1882, p. 25; *Newt. ed. Yarr. Brit. B.* ii. p. 477 (1882); *Seeb. Hist. Brit. B.* ii. p. 359 (1884); *Blakist. Amend. List B. Jap.* pp. 28, 44 (1884); *Gigl. Avif. Ital.* p. 204 (1886).

Lesser Spotted Woodpecker, *Penn. Brit. Zool.* p. 79, pl. E (1766); *Lath. Gen. Syn.* ii. p. 566 (1782), *Suppl.* i. p. 107 (1787); *Mont. Orn. Dict.* i. (1802); *Seeb. Sib. in Eur.* p. 21 (1880).

Dendrocopos minor, *Koch, Syst. baier. Zool.* i. p. 73 (1816).

Picus hortorum, *Brehm, Vög. Deutschl.* p. 193 (1831).

Dendrocopus minor, *Selby, Brit. Orn.* pl. xxxviii. fig. 4 (1833); *Swains. Classif. B.* ii. p. 307; *B. O. U. List Brit. B.* p. 78 (1883); *Tait, Ibis*, 1887, p. 304.

Picus striolatus, *Macgill. Brit. B.* iii. p. 86 (1840).

Pipripicus minor, *Bp. Consp. Volucr. Zygod.* p. 8, no. 53 (1854).

Piculus hortorum,
Piculus herbarum,
Piculus minor,
Piculus crassirostris,
Piculus pusillus, } *Brehm, Vollst. Vogelf.* p. 70 (1855).

Picus ledouci, *Malh. Faun. Orn. Algér.* p. 22 (1855).

Picus kamtschatkensis (pt.), *Tacz. Bull. Soc. Zool. Fr.* 1876, p. 239.

Picus kamtschatkensis (*non Bp.*), *Tacz. Bull. Soc. Zool. Fr.* 1878, p. 139.

Xylocopus minor, *Cab. et Hein. Mus. Hein.* iv. p. 51 (1863).

Dryobates minor, *Gigl. Ibis*, 1865, p. 58.
Picus minor, var. pipra, *Collett, Norges Fuglef.* p. 310 (1881).
Picus pipra (*non Pall.*), *Blakist. & Pryer, Trans. As. Soc. Jap.* 1882, p. 133; *Seeb. Ibis*, 1882, p. 374.
Picus minor pipra, *Blakist. Chrysanth.* iii. p. 28 (1883).

Adult male. Upper back and upper scapulars black, the lower scapulars white narrowly barred with black; remainder of the back barred black and white; rump and upper tail-coverts black; wing-coverts black, the median series having a subapical white bar or spot, the greater coverts being spotted with white on both webs; bastard-wing and exposed portion of primary-coverts black; quills black, spotted with white upon both webs, the innermost being barred across with white; shafts brownish black; the four central tail-feathers black, the next one on either side black at the base, the tip and the margin of half the outer web white, with a subapical black bar; the two outer large feathers on either side white, narrowly barred with black on both webs, the extreme base black; dwarf feather black, tipped with white; shafts corresponding in colour with the surrounding web; lores white; a broad frontal band of pale buff, brownish at the base; crown crimson, with partly concealed white spots, the bases of the feathers dusky; outer edge of the crown, the occiput, nape, and hind neck black; sides of the face and neck white, the ear-coverts pale brown; a black malar stripe bordering the throat and fore neck, and passing behind the ear-coverts but not joining the occiput, the black widening on the side of the neck and forming a conspicuous patch; from the chin to the under tail-coverts (inclusive) brownish white, the chin and upper throat whiter, narrowly striped with black on the sides of the chest and of the body, also on the flanks and thighs; the under tail coverts having heart-shaped or sagittate spots of black; under wing-coverts white, with, at most, a few dusky spots; on the edge of the wing a conspicuous patch of black; axillaries white. Total length 5·8 inches, culmen 0·76, wing 3·6, tail 2·4, tarsus 0·6; toes (without claws)—outer anterior 0·38, outer posterior 0·46, inner anterior 0·33, inner posterior 0·22.

Adult female. Has no red on the head, the forehead and fore part of the crown being buffy white. Total length 5·8 inches, culmen 0·65, wing 3·6, tail 2·27, tarsus 0·6.

Nestling (♂ ?). Is of a more sooty-brown colour above; the centre (only) of the crown crimson, the feathers being dingy white at the base; the base of the frontal band not dusky brown. In other respects resembles the adult.

Southern examples of this species are smaller and darker below than typical birds, and the striations on the underparts are broader and blacker. In the Altai mountains, South-eastern Siberia, and the region of the Amour, birds are to be found almost identical with typical examples of both *D. minor* and *D. pipra*, while others are intermediate between these two forms. In Yezo the bird is not typical, although I place it under *D. minor*.

Hab. Europe, generally, and extending east through the moun-

tainous regions of Southern Siberia to the Amour, ranging south into Mongolia and into the island of Yezo. Also occurs in Algeria and in the Azores.

a. ♂ ad.; *b*. ♀ imm. sk.	Taunton, Somersetshire.	Cecil Smith, Esq. [P.].
c. ♂ ad. sk.	Wiltshire.	Montagu Coll.
d, *e*. ♂ ♀ ad.; *f*. Juv. sk.	Cookham, Berks.	Gould Coll.
g. ♂ ad. st.	Cookham (*W. Briggs*).	R. B. Sharpe, Esq. [P.].
h. Juv. sk.	Cookham, June (*R. B. S.*).	Hume Coll.
i, *k*. ♂ ♀ ad. sk.	Cookham, May (*R. B. S.*).	Tweeddale Coll.
l. Juv. sk.	Avington, Hants, Dec.	Shelley Coll.
m. ♂ ad. sk.	Sussex.	Hume Coll.
n, *o*. ♂ ♀ imm. sk.	Cain Wood, Middlesex.	Salvin-Godman Coll.
p, *q*. Ad. st.	Cambridgeshire.	Mr. Baker.
r, *s*. ♂ ♀ ad. sk.	Sweden, Nov.	Gould Coll.
t. ♂ ad. sk.	Sweden (*H. Wheelwright*).	Tweeddale Coll.
u. ♀ juv. sk.	Skåne, Sweden.	R. B. Sharpe, Esq. [P.].
v, *w*. ♂ ♀ ad. sk.	Wermland, Oct., Dec.	Mr. Meves [C.].
x, *y*. ♂ ♀ ad. sk.	Algiers.	Purchased.
z, *a'*. ♂ ♀ ad. sk.	Russia.	Gould Coll.
b'. ♂ ad. sk.	Russia, Sept.	Moscow Museum.
c'. ♂ ad. sk.	Archangel, April.	Hume Coll.
d'. ♀ ad. sk.	Petchora.	Colonel Feilden [P.].
e'. ♂ imm.; *f'*. ♀ ad. sk.	Narimskaja, River Ob, Siberia, Sept.	Dr. O. Finsch [C.].
g'. Juv. sk.	Tschematschewskaja, River Ob, July.	Dr. O. Finsch [C.].
h'. ♂ ad. sk.	Ussuri River, E. Siberia, Oct.	Warsaw Museum.
i'. Skull.	England.	Yarrell Coll.
k'. Skull.	South Germany.	Dr. Günther [C.].

Subsp. *a*. Dendrocopus pipra.

Picus pipra, *Pall. Zoogr. Rosso-Asiat.* p. 414 (1831); *Sceb. Ibis*, 1880, p. 181; *id. Sib. in Eur.* p. 109 note (1880); *id. Sib. in Asia*, p. 293 (1882).

Picus minor (*non Linn.*), *Gould, B. Eur.* pl. ccxxxi., ♂ ♀ ad. (not text) (1837); *Middenb. Sib. Reise, Zool.* p. 132 (1851); *Seeb. & Harv.-Br. Ibis*, 1876, p. 112; *Finsch, Verhandl. k. k. zool.-bot. Gesellsch. Wien*, 1879, p. 227.

Picus minor (pt.), *Bp. Cat. Met. Ucc. Eur.* p. 51 (1842); *Reichenb. Scans. Picinæ*, p. 370, no. 855 (1854).

Trichopicus kamtschatkensis, *Bp. Consp. Volucr. Zygod.* p. 8, no. 49 (1854).

Picus kamtschatkensis, *Malh. Picidæ*, i. p. 115, pl. xxvi. figs. 1 ♂, 2 ♀ (1861); *Sundev. Consp. Av. Picin.* p. 26 (1866); *Gray, List Picid. Brit. Mus.* p. 37 (1868); *id. Hand-l. B.* ii. p. 182, no. 8561 (1870); *Tacz. Bull. Soc. Zool. Fr.* 1876, p. 239 (pt.), 1882, p. 396; *Dyb. op. cit.* 1883, p. 368.

Xylocopus kamtschatcensis, *Cab. & Heine, Mus. Hein.* iv. p. 53 (1863).

Picus minor kamtschatkensis, *Dyb. & Tacz. Bull. Soc. Zool. Fr.* 1884, p. 146.

Dendrocopos immaculatus, *Stejn. Proc. Biol. Soc. Wash.* ii. p. 98 (1884).
Dryobates immaculatus, *Stejn. Bull. U. S. Nat. Mus.* no. 29 (1885), pp. 231, 342.

Adult male (*winter*). Differs from *D. minor* in having the whole of the under surface of the body and the under tail-coverts pure white, the latter being occasionally uniform, but more often with a few small spots of black; with fewer black bars or transverse spots on the lateral tail-feathers; the lower half of the back and the rump almost spotless white, with only a trace of bar-like markings of black; the white bars on the wings broader; the measurements are also greater. In other respects it resembles *D. minor*. Total length 6·5 inches, culmen 0·7, wing 3·75, tail 2·45, tarsus 0·6; toes (without claws)—outer anterior 0·33, outer posterior 0·43, inner anterior 0·3, inner posterior 0·2.

Adult female (*winter*). Differs from the adult male in the absence of red on the crown, this being for the greater part white, the outer edge, likewise the occiput, being black as in the male. Total length 6·2 inches, culmen 0·7, wing 3·75, tail 2·6, tarsus 0·58.

In summer both sexes have a few black striations on the sides of the chest and on the thighs, and the white of the back is more barred with black; the under surface of the body, although white, is scarcely so pure. In this plumage they more resemble northern examples of *D. minor* in winter.

Hab. From the South Ural Range, across Siberia north of about 55° lat., and into Kamtschatka and Behring Island.*

a, *b*. ♂ ♀ ad. sk. Upper Ural River, Ural Mts., March 26th. Dr. Severtzoff [C.].

Subsp. β. **Dendrocopus quadrifasciatus.**

Picus minor (*non Linn.*), *Bogd. B. Cauc.* p. 123 (1879).
Picus minor, var. quadrifasciatus, *Radde, Orn. Cauc.* p. 315, pl. xix. fig. 5, ♂ (1884).

Adult male. According to Radde the small Spotted Woodpecker of the Caucasus differs from *D. minor* in having only four bands of white on the wings (when closed) instead of five, as in the latter species; the dimensions are also less, and are given by Radde as follows:—Total length 128 millim., wing 83, tail 55, culmen 14, tarsus 15.

Adult female. Has no red on the top of the head. Total length 126 millim., wing 82, tail 55, culmen 12, tarsus 15.

Hab. Caucasus.

Subsp. γ. **Dendrocopus danfordi.**

Picus minor (*non Linn.*), *Danf. Ibis*, 1877, p. 264, 1878, p. 7.
Picus danfordi, *Harg. Ibis*, 1883, p. 172.

Adult male. May be distinguished from *D. minor* by having the

* The want of specimens, as well as the absence of information on the subject, prevents me from being more precise as to the range of this subspecies.

branch from the black malar stripe passing quite round the posterior portion of the ear-coverts and joining the occiput. It is also darker and browner below and more striated, and the flanks and thighs are distinctly barred with dusky black. The present species resembles (as might be expected) in coloration the more southerly form of *D. minor* rather than typical Swedish birds. Total length 5·3 inches, culmen 0·65, wing 3·4, tail 1·85, tarsus 0·55; toes (without claws)—outer anterior 0·35, outer posterior 0·45, inner anterior 0·3, inner posterior 0·22.

Adult female. Differs from the adult male in the absence of red on the head, the crown, as well as the forehead, being buffy white. Total length 5·2 inches, culmen 0·6, wing 3·3, tail 1·85, tarsus 0·52.

Hab. The Taurus range, Asia Minor, and extending into Turkey and Greece.

a. ♂ ad. sk. Zebil, Taurus, Asia Minor, Jan. 7, 1876 (*C. G. Danford*). Salvin-Godman Coll.

b. ♀ ad. sk. Anascha, Taurus, Asia Minor, March 24, 1876 (*C. G. Danford*). Salvin-Godman Coll.

21. Dendrocopus lignarius.

Picus lignarius, *Molina, Stor. Nat. Chili*, p. 343, juv. (1782); *Gm. Syst. Nat.* i. p. 424, no. 22 (1788); *Lath. Ind. Orn.* i. p. 224, no. 2, juv. (1790); *Steph. Gen. Zool.* ix. p. 157 (1815); *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 90 (1818); *Fraser, P. Z. S.* 1843, p. 114; *Gray, Gen. B.* ii. p. 435 (1845); *Bp. Consp. Gen. Av.* i. p. 139, ♀ ad. (1850); *Burm. Th. Bras.* ii. p. 225 (1856); *Math. Picidæ*, i. p. 109, pl. xxvi. figs. 9–11, ♂ ♀ & juv. (1861); *Sclat. Cat. Amer. B.* p. 334, no. 1992 (1862); *Sundev. Consp. Av. Picin.* p. 20 (1866); *Sclat. P. Z. S.* 1867, pp. 328, 338; *Gray, List Picid. Brit. Mus.* p. 49 (1868); *Sclat. & Salv. Ibis*, 1869, p. 283; *Gray, Hand-l. B.* ii. p. 185, no. 8606 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 99 (1873); *Sclat. & Salv. P. Z. S.* 1879, p. 631; *Salv. Cat. Strickl. Coll.* p. 387, no. 1895 (1882); *id. P. Z. S.* 1883, p. 425; *Tacz. Orn. Pérou*, iii. p. 78 (1886).

Picus melanocephalus, *King, P. Z. S.* 1831, p. 14, ♀ ad.; *Gay, Faun. Chil., Zool.* p. 372 (1847); *Philippi, Cat. Av. Chil. Mus. Santiago*, p. 27 (1869).

Picus puncticeps, *d'Orb. Voy. Amér. Mérid.* iv. p. 379, pl. lxiv. fig. 1, ♂ ad. (1835–44); *Tsch. Consp. Av. Rep. Peruan. in Wiegmann's Arch. für Natury.* 1844, p. 303, no. 250; *Cab. in Tschudi's Faun. Peruan., Aves*, p. 43, no. 5 (1845–46).

Picus kingii, *Gould, in Darwin's Voy. 'Beagle,' Bds*, p. 113, juv. (1841).

Picus kaupii, *Hartl. Rev. et Mag. de Zool.* 1852, p. 6; *id. Naumannia*, 1853, p. 215; *Reichenb. Scans. Picinæ*, p. 417, no. 981 *b* (1854).

Picus gradatus, *Licht. Nomencl. Av.* p. 75 (1854).

Centurus gradatus, *Reichenb. Scans. Picinæ*, p. 411, no. 967, pl. dclxv. figs. 4417, 4418, ♀ ad., ♂ juv. (1854).

Colaptes lignarius, *Reichenb. Scans. Picinæ*, p. 417, no. 980, pl. dclxix. fig. 4435, ♀ ad. (1854), and pl. dclxv. figs. 4417 ♀ ad., 4418 juv., *sub* Centurus gradatus.

Dyctiopicus lignarius, *Bp. Consp. Volucr. Zygod.* p. 8, no. 30 (1854).

Dyctiopicus kaupii, *Bp. Consp. Volucr. Zygod.* p. 8, no. 31 (1854).

Dictyopipo lignaria, *Cab. & Heine, Mus. Hein.* iv. p. 78 (1863).

Adult male. Back, rump, upper tail-coverts, and scapulars barred black and white; wings and their coverts brownish black, the latter as well as both webs of the quills spotted with white; shafts brown; tail black narrowly barred with white, the bars on the central feathers five in number and half the width of the interspaces; shafts black; nasal plumes brownish white; forehead and crown black with hair-like stripes of white; occiput scarlet; nape and hind neck black with a few white stripes; sides of the face and neck white, the ear-coverts striped black and brown, with a black postauricular stripe spotted with white, and an elongated black malar stripe varied with white anteriorly, the side of the neck striped with black; from the chin to the under tail-coverts white, slightly fulvescent below, striped with black, the flanks, thighs, and under tail-coverts with bar-like spots and bars of black; under wing-coverts and axillaries white, the lower series of the former having a few rounded black spots. Total length 6·5 inches, culmen 0·95, wing 3·65, tail 2·3, tarsus 0·7; toes (without claws)—outer anterior 0·45, outer posterior 0·5, inner anterior 0·4, inner posterior 0·2.

Adult female. Differs from the adult male in the absence of the red occipital band and the white stripes on the forehead and crown, the forehead being brown with a few stripe-like spots of a paler shade at its base, the entire crown, occiput, and nape being brownish black. Total length 6·5 inches, culmen 0·78, wing 3·55, tail 2·2, tarsus 0·7.

Young (*sex*?). Differs from the adult of both sexes in having the whole of the feathers on the top of the head and on the occiput tipped with dull red; on the forehead a few stripe-like spots of white; the white on the face and neck dingy; the under surface of the body dingy white and very considerably varied with black, the chest and breast having broad and irregular stripes, the abdomen being spotted, and the sides of the body, flanks, thighs, and under tail-coverts barred with black; the upper mandible brownish black, the lower mandible pale brown with a blackish-brown tip.

Hab. Peru (*Tschudi*), Bolivia, the Argentine Republic, and through Chili south to the island of Chiloe.

a. ♂ ad. sk.	Chili.	T. Bridges, Esq. [C.].
b, c. ♀ ad. sk.	Chili, Jan. 1837 (*C. Darwin*).	Gould Coll.
d, e. ♂ ♀ ad.; *f* Juv. sk.	Chili.	Sclater Coll.
g, h. ♂ ad.; *i*. Juv. sk.	Chili.	Salvin-Godman Coll.
k. ♀ ad. sk.	Coquimbo, Chili, Nov. 1881 (*A. H. Markham*).	Salvin-Godman Coll.
l. ♂ ad. sk.	Chilian Andes.	Tweeddale Coll.
m. ♂ ad. st.	Valparaiso.	Sir W. Burnett and Capt. Fitzroy [P.].
n. ♂ ad. sk.	Island of Chiloe.	Zoological Society.
o. ♂ ad. sk.	Bolivia.	T. Bridges, Esq. [C.].
p, q. ♀ ad. et imm. sk.	Cosquin, Cordova, Arg. Rep., Aug. (*E. W. White*).	Sclater Coll.
r. ♀ ad. sk.		Riocour Coll.

22. Dendrocopus mixtus.

L'Épeiche ou Pic varié de la Encénada, *Buff. Hist. Nat. Ois.* vii. p. 409 (1783).

Pic mâle de la Encénada, *Daubent. Pl. Enl.* 748. fig. 1.

Picus mixtus, *Bodd. Tabl. Pl. Enl.* p. 47 (1783); *Gray, Gen. B.* iii. *App.* p. xxi (1849); *Sclat. Cat. Amer. B.* p. 334, no. 1996 (1862); *Sundev. Consp. Av. Picin.* p. 20 (1866); *Gray, List Picid. Brit. Mus.* p. 48 (1868); *Sclat. & Salv. P. Z. S.* 1868, pp. 138, 143; *Hudson, op. cit.* 1870, p. 158; *Gray, Hand-l. B.* ii. p. 185, no. 8608 (1870); *Pelz. Orn. Bras.* p. 443 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 99 (1873); *Durnf. Ibis*, 1878, p. 62; *White, P. Z. S.* 1882, p. 617, 1883, p. 40; *Barrows, Auk*, 1884, p. 25; *Withington, Ibis*, 1888, p. 467; *Sclat. & Huds. Arg. Orn.* ii. p. 19 (1889).

Picus bicolor, *Gm. Syst. Nat.* i. p. 438 (1788); *Bp. Consp. Gen. Av.* i. p. 139 (1850); *Reichenb. Scans. Picinæ*, p. 372, no. 860, pl. dcxxxvii. fig. 4241, ♂ (1854); *Malh. Picidæ*, i. p. 137, pl. xxxiv. figs. 1–3, ♂ ♀ ad., ♂ juv. (1861).

Picus variegatus, *Lath. Ind. Orn.* i. p. 233 (1790); *Steph. Gen. Zool.* ix. p. 193 (1815); *Bonn. & Vieill. Enc. Méth.* iii. p. 1318 (1823); *Burm. Th. Bras.* ii. p. 225 (1856).

Carpintero chorreado, *Azara, Apunt.* ii. p. 324, no. 259 (1805).

Picus maculatus, *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 91 (1818); *id. & Bonn. Enc. Méth.* iii. p. 1317 (1823); *Wagl. Syst. Av.* Picus, sp. 58 (1827).

Chloronerpes maculatus, *Hartl. Ind. Azara*, p. 17, no. 259 (1847); *Reichenb. Scans. Picinæ*, p. 355, no. 816 (1854).

Dyctiopicus bicolor, *Bp. Consp. Volucr. Zygod.* p. 8, no. 29 (1854).

Dictyopipo mixta, *Cab. & Heine, Mus. Hein.* iv. p. 76 (1863).

Dendrobates lignarius (*non Molina*), *Burm. P. Z. S.* 1868, p. 634.

Adult male. Resembles *D. lignarius*, but differs in having the top of the head browner and entirely, as well as more broadly, striped with white; the red on the occiput confined to the sides; the ear-coverts browner and with less black behind, the malar region spotted with black, and behind it a broken stripe of black; the upper parts fulvescent and the transverse light markings broader; the central tail-feathers crossed by seven black bars: shafts of tail-feathers brown; chin and throat fulvescent white spotted with black; under surface of the body strongly fulvescent and covered with drop-like spots of black; the flanks, thighs, and under tail-coverts also spotted. Total length 6·5 inches, culmen 0·8, wing 3·5, tail 2, tarsus 0·73; toes (without claws)—outer anterior 0·4, outer posterior 0·52, inner anterior 0·33, inner posterior 0·25.

Adult female. Differs from the adult male in wanting the red occiput; the feathers of the forehead and crown brown, with paler tips, those of the forehead having buffy-white shaft-lines, the occiput and nape being brownish black. Total length 5·8 inches, culmen 0·7, wing 3·3, tail 1·9, tarsus 0·65.

Hab. Southern Brazil and Uruguay, south to Monte Video; Paraguay and the Argentine Republic, south to Buenos Ayres, and in Chili.

a, *b*. ♂ ♀ ad. sk.	S. Brazil.	Sclater Coll.
c. ♂ juv. sk.	Pampas Argentinas, Chili (*Leybold*).	Salvin-Godman Coll.
d, *e*. ♂ ♀ ad. sk.	Punta Lara, Arg. Rep., Oct.	H. Durnford, Esq. [C.].
f. ♀ ad. sk.	Punta Lara, May.	Alan Peel, Esq. [C.].
g. ♀ ad. sk.	Buenos Ayres (*Haslehust*).	Salvin-Godman Coll.
h. ♀ ad. sk.	Conchitas, Buenos Ayres, Sept. (*W. H. Hudson*).	Sclater Coll.
i. ♂ ad. sk.	Mendoza (*Weisshaupt*).	Salvin-Godman Coll.
k, *l*. ♂ ad. ; *m*. ♀ ad. sk.	Chili.	Zoological Society.
n. ♀ ad. var. sk.	Chili.	Old Coll.

23. Dendrocopus cancellatus.

Picus cancellatus, *Wagl. Isis*, 1829, p. 510, ♂ ad. (juv. ?), ♀ (♂ ad. ?) ; *Bp. Consp. Gen. Av.* i. p. 138, juv. (1850) ; *Sclat. P. Z. S.* 1856, p. 308 ; *Sundev. Consp. Av. Picin.* p. 21 (1866) ; *Gray, List Picid. Brit. Mus.* p. 49 (1868) ; *id. Hand-l. B.* ii. p. 186, no. 8611 (1870) ; *Pelz. Orn. Bras.* pp. 245, 443 (1870).
Dyctiopicus wagleri, *Bp. Consp. Volucr. Zygod.* p. 8, no. 33 (1854).
Dendrobates maculatus, *Burm. Th. Bras.* ii. p. 224 (1856).
Picus waglerii, *Malh. Picidæ*, i. p. 112, pl. xxix. figs. 1–3, ♂ ad., ♂ juv., ♀ ad (1861).
Dictyopipo cancellata, *Cab. et Heine, Mus. Hein.* iv. p. 78 (1863).

Adult female. Resembles *D. mixtus* ♀, but differs in having the whole of the top of the head umber-brown ; the dark barring above as well as on the wings and tail browner ; the rump conspicuously whiter, with small longitudinal and transverse blackish spots ; under parts creamy white (not fulvescent), with extremely minute dusky spots, slightly longitudinal ; the central tail-feathers crossed by five black bars. Total length 5·7 inches, culmen 0·7, wing 3·4, tail 1·62, tarsus 0·58 ; toes (without claws)—outer anterior 0·42, outer posterior 0·48, inner anterior 0·38, inner posterior 0·22.

I have only seen one example of the present species, and this has the top of the head *uniform* umber-brown, and in this respect resembles the uniform head possessed by the females of the allied species *D. mixtus* and *D. lignarius*. I believe (judging by analogy) that Wagler's adult male is the young bird, and that his female is the adult male, the former having been described as having the top of the head red, the latter as having the occiput (only) red, the forehead and crown-feathers striped with white.

Hab. South Brazil (Province of San Paulo) *.

24. Dendrocopus macii.

Picus macei, *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 80 (1818) ; *id.* §

* The exact range of this species is probably not known, as it is no doubt often confounded with *D. mixtus*. Wagler gives "Mexico" as the habitat of *D. cancellatus*, but I apprehend there has been some mistake.

Bonn. Enc. Méth. iii. p. 1310 (1823); *Temm. Pl. Col.* pl. lix. fig. 2, ♂ (1823); *Steph. Gen. Zool.* xiv. p. 159 (1826); *Less. Man. d'Orn.* ii. p. 113, ♂ (1828); *id. Traité*, i. p. 220 (1831); *Gray, Hardw. Illustr. Ind. Zool.* i. pl. xxxii., ♂ ♀ (1830–32); *Gray, Gen. B.* ii. p. 435 (1845); *Blyth, J. A. S. B.* 1845, p. 196; *Gray, Cat. Mamm. &c. Nepal pres. Hodgs.* 1846, p. 115; *Sundev. Ann. & Mag. N. Hist.* 1846, p. 309; *Blyth, Cat. B. Mus. As. Soc.* p. 62 (1849); *id. J. A. S. B.* 1849, p. 804; *Bp. Consp. Gen. Av.* i. p. 135 (1850); *Reichenb. Scans. Picinæ*, p. 369, no. 852 (1854); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 672 (1856–58); *Malh. Picidæ*, i. p. 96, pl. xxiv. figs. 1-2, ♂ ♀ (1861); *Jerd. B. Ind.* i. p. 272 (1862); *Gray, Cat. Mamm. &c. Nepal pres. Hodgs.* 1863, p. 63; *Sundev. Consp. Av. Picin.* p. 25 (1866); *Gray, List Picid. Brit. Mus.* p. 37 (1868); *id. Hand-l. B.* ii. p. 183, no. 8563 (1870); *Jerd. Ibis*, 1872, p. 7; *Hume, Str. F.* 1874, p. 471; *Hume & Davison, Str. F.* vi. p. 123 (1878); *Cripps, op. cit.* vii. p. 261 (1878); *Scully, op. cit.* 1879, pp. 245, 367; *Marshall, Ibis*, 1884, p. 410.

Dendrocopus macei, *Swains. Classif. B.* ii. p. 307 (1837).

Dendrocopus pyriceps, *Hodgs. in Gray's Zool. Misc.* 1844, p. 85.

Picus wagleri, *Hartl. Cat. Brem. Mus.* p. 91 (1844); *Gray, Gen. B.* ii. p. 435 (1845); *Reichenb. Scans. Picinæ*, p. 368, no. 849, pl. dcxxxiv. fig. 4223, ♂ (1854).

Yungipicus macei, *Bp. Consp. Volucr. Zygod.* p. 8, no. 72 (1854).

Dendrotypes macei, *Cab. & Heine, Mus. Hein.* iv. p. 46 (1863); *Blyth & Wald. B. Burm.* p. 77 (1875).

Picus macii, *Blyth, Ibis*, 1866, p. 354; *Layard, Ibis*, 1868, p. 249; *Cock & Marshall, Str. F.* 1873, p. 350; *Hume, op. cit.* 1880, p. 247; *Oates, B. Brit. Burm.* ii. p. 33 (1883); *Hume, Str. F.* xi. p. 57 (1888).

Picus westermani, *Blyth, Ibis*, 1870, p. 163.

Adult male. Back, rump, upper tail-coverts, and scapulars black, the upper tail-coverts and a broad zone across the upper back uniform, the remainder being barred with white; wings and their coverts black, the median and the greater coverts as well as both webs of the quills spotted with white; shafts black; tail black, the two outer large feathers barred with white on more or less of the apical portion; shafts black; nasal plumes and base of forehead brownish buff; crown and occiput crimson; nape and hind neck black; sides of the face and neck uniform buffy white or pale buff; the chin, throat, and fore neck also uniform, but of a pure buff: a black malar stripe borders the throat and fore neck and terminates on the side of the chest in a series of longitudinal spots or stripes: the underparts below the fore neck dusky buff, striped with blackish, the stripes more intense on the sides of the body, the flanks and thighs barred with black; vent and under tail-coverts scarlet; under wing-coverts and axillaries white, the former barred with black. Total length 7·5 inches, culmen 1, wing 4·4, tail 2·55, tarsus 0·7; toes (without claws)—outer anterior 0·5, outer posterior 0·6, inner anterior 0·45, inner posterior 0·25.

Adult female. Differs from the adult male in having the entire crown and occiput black: "bill plumbeous dusky, grey horny at base: feet greenish plumbeous" (*Scully*). Total length 7·5 inches, culmen 0·97, wing 4·2, tail 2·55, tarsus 0·75.

Young male. Has the underparts more dusky than the adult male, and the flanks and thighs have dusky barring; the under tail-coverts are of a less brilliant red; the red on the head not extending on to the nuchal feathers; the tips of the outer webs of the primaries white: "bill horny; legs dirty greenish; iris brown" (*J. Cockburn*).

Hab. Himalayas west to Murree; Assam, Cachar, Manipur, Tipperah, and Eastern Bengal*.

a, *b*. ♂ ♀ ad. sk.	N.W. India.	Pinwill Coll.
c. ♂ imm. sk.	Murree, June 2, 1872 (*C. H. T. Marshall*).	Hume Coll.
d, *e*. ♀ ad. sk.	Masuri.	Hume Coll.
f. ♂ ad. sk.	Dehra Dhoon.	Tweeddale Coll.
g. ♂ ad. sk.	Kaladoongee, Sept. 24, 1866.	Hume Coll.
h. ♀ ad. sk.	Birmdeo, Kumaon Bhabur, March 19, 1871 (*G. King*).	Hume Coll.
i, *k*. ♂ ad.; *l*, *m*. ♀ ad.; *n*, *o*. Imm. sk.	Nepal.	Hodgson Coll.
p, *q*. ♂ ad.; *r*. ♀ ad. sk.	Nepal (*B. H. Hodgson*).	India Museum.
s–*w*. ♂ ad. et imm.; *x*. ♀ ad. sk.	Native Sikhim, April, July, Aug. (*L. Mandelli*).	Hume Coll.
y–*e'* ♂ ad.; *f''*–*i'*. ♀ ad. sk.	Sikhim, March, April, Nov., Dec. (*L. Mandelli*).	Hume Coll.
k', *l'*. ♂ ♀ ad. sk.	Darjeeling, March 1873.	Hume Coll.
m', *n'*. ♂ ad. sk.	Darjeeling.	Tweeddale Coll.
o'. ♀ ad. sk.	Khasia Hills (*Griffith*).	India Museum.
p', *q'*. ♂ ad.; *r'*. ♀ imm. sk.	Assam (*McClelland*).	India Museum.
s', *t'*. ♂ ♀ ad. sk.	Assam.	Tweeddale Coll.
u'. ♂ juv. sk.	Shillong, June 1875 (*A. W. Chennell*).	Tweeddale Coll.
v', *w'*. ♂ ad. et juv. sk.	Shillong, Aug., Oct. (*J. Cockburn*).	Hume Coll.
x', *y'*. ♂ ad.; *z'*. ♀ ad. sk.	Tippook, March 1877 (*J. Cockburn*).	Hume Coll.
a''–*d''*. ♂ ad. et imm.; *e''*, *f''*. ♀ ad. sk.	Dibrughur, Dec., March, May, June (*J. R. Cripps*).	Hume Coll.
g''. ♀ ad. sk.	Sadhya.	Tweeddale Coll.
h''. ♀ ad. sk.	Barak River, Cachar, Oct. 1878 (*W. Davison*).	Hume Coll.
i''. ♀ ad. sk.	Cachar, Jan. 29, 1881 (*A. O. H.*).	Hume Coll.
k''–*x''*. ♂ ad.; *y''*–*m*³. ♀ ad. et imm. sk.	Manipur, Feb., March, April (*A. O. H.*).	Hume Coll.
*n*³, *o*³. ♂ ♀ ad. sk.	Akyab, Pegu, March, April (*J. Armstrong*).	Hume Coll.
*p*³. ♀ ad.; *q*³. ♂ imm.; *r*³. ♂ juv. sk.	Tipperah.	Hume Coll.
*s*³, *t*³. ♂ ♀ ad. sk.	Dacca, March 1871.	Hume Coll.

* Ceylon has been given as a habitat of this species, but this is evidently an error.

u^3. ♂ ad. sk.	Calcutta.	Hume Coll.
v^3. ♂ juv. sk.	Muddapur, Oct 10, 1878 (*W. E. Brooks*).	Hume Coll.
w^3. ♀ ad. sk.	Bhudesen, Oct. 10, 1878 (*W. E. Brooks*).	Hume Coll.
x^3. Skeleton.	India.	Purchased.

25. Dendrocopus atratus.

Picus atratus, *Blyth, J. A. S. B.* 1849, p. 803; *id. Cat. B. Mus. As. Soc., App.* i. p. 313 (1849); *id. J. A. S. B.* 1859, p. 412; *Malh. Picidæ,* i. p. 72 (1861); *Jerd. B. Ind.* i. p. 275 (1862); *Sundev. Consp. Av. Picin.* p. 25 (1866); *Gray, List Picid. Brit. Mus.* p. 38 (1868); *id. Hand-l. B.* ii. p. 183, no. 8567 (1870); *Hume, Str. F.* 1874, p. 471; *Wald. Ibis,* 1876, p. 343, pl. ix., ♂ ♀; *Hume, Str. F.* 1877, p. 113; *id. & Davison, op. cit.* vi. pp. 123, 500 (1878); *Wardl.-Rams. Tweedd. Mem.* p. 427 (1881); *Oates, B. Brit. Burm.* ii. p. 34 (1883); *Hume, Str. F.* xi. p. 58 (1888).

Dendrotypes atratus, *Cab. & Heine, Mus. Hein.* iv. p. 49 (1863); *Blyth & Wald. B. Burm.* p. 77 (1875).

Picus harmandi, *Oustalet, Bull. Soc. Philom.* 1879, pp. 214–5 (♂ juv.).

Adult male. Resembles *D. macii*, but differs in having the face and side of the neck pure white; the chin and throat also white, the lower throat, fore neck, and chest striped with black, the latter very broadly so; the under surface of the body more fulvescent and the black striations broader; a broader frontal band of smoky white, the upper feathers having dusky tips; the dimensions are greater: "legs and feet dusky leaden, soles yellowish hoary; claws dark brown; bill horny black, bluish grey at gape and base of lower mandible; irides lac-red" (*Hume*). Total length 8·25 inches, culmen 1·12, wing 4·5, tail 2·7, tarsus 0·73; toes (without claws)—outer anterior 0·53, outer posterior 0·62, inner anterior 0·43, inner posterior 0·28.

Adult female. Differs from the adult male in wanting the red on the top of the head; the forehead (except at the extreme base), crown, occiput, and nape being uniform deep black; the under surface of the body rather less fulvescent. Total length 8·6 inches, culmen 1·15, wing 4·8, tail 2·8, tarsus 0·82.

Young male. Resembles the adult male in having the top of the head red, but it is of an orange-scarlet, not crimson; the chin and throat are purer white, and the underparts are much more dusky and have scarcely any fulvescent tinge: the under tail-coverts are pale brick-red.

Hab. British Burmah (and probably Native Burmah), north to Manipur; in Tenasserim south to Mooleyit; eastward ranging into Laos *.

a, b. ♂ ad.; *c, d, e.* ♀ ad. sk.	Aimole, Manipur, April, May (*A. O. H.*).	Hume Coll.

* *P. harmandi* of Oustalet, which I take to be the young of the present species, is from the latter country.

f. ♂ ad.; *g*, *h*. ♀ ad. sk.	Karen Hills, Jan., April (*R. G. W. R.*).	Tweeddale Coll.
i. ♂ juv. sk.	Karen-nee, April 3, 1874 (*R. G. W. R.*).	Tweeddale Coll.
k, *l*. ♂ ad.; *m*, *n*, *o*. ♀ ad. et juv. sk.	Tonghoo, March, April (*R. G. W. R.*).	Tweeddale Coll.
p, *q*. ♂ ad.; *r*. ♀ ad. sk.	Pine Forests, Salween Distr., Feb. 1874 (*W. Davison*).	Hume Coll.
s, *t*. ♂ ♀ ad. sk.	Mooleyit, Feb. 1877 (*W. Davison*).	Hume Coll.
u. ♀ ad. sk.	Paraduba, Jan. 27, 1877 (*W. Davison*).	Hume Coll.

26. Dendrocopus brunneifrons.

Picus auriceps, *Vig. P. Z. S.* 1831, p. 44; *Less. Compl. Buff.* ix. p. 307 (1837); *Sunder. Consp. Av. Picin.* p. 30 (1866).

Picus brunnifrons, *Vig. P. Z. S.* 1831, p. 176; *Gould, Cent. B. Himal. Mts.* pl. lii., ♂ ♀ (1832); *Gray, Gen. B.* ii. p. 435 (1845); *Blyth, J. A. S. B.* 1845, p. 196; *Gray, Cat. Mamm. &c. Nepal pres. Hodgs.* 1846, p. 115; *Blyth, Cat. B. Mus. As. Soc.* p. 62 (1849); *Bp. Consp. Gen. Av.* i. p. 135 (1850); *Reichenb. Scans. Picinæ*, p. 369, no. 851, pl. dcxxxv. figs. 4226–27, ♂ ♀ (1854); *Malh. Picidæ*, i. p. 107, pl. xviii. figs. 5–6, ♂ ♀ (1861); *Gray, Hand-l. B.* ii. p. 183, no. 8569 (1870); *Jerd. Ibis*, 1872, p. 7.

Dendrocopus brunifrons, *Swains. Classif. B.* ii. p. 307 (1837); *Hodgs. in Gray's Zool. Misc.* 1844, p. 85.

Picus (Leiopicus) brunneifrons, *Bp. Consp. Volucr. Zygod.* p. 8, no. 66 (1854).

Leiopicus brunnifrons, *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 674 (1856–58): *Gray, Cat. Mamm. &c. Nepal pres. Hodgs.* 1863, p. 63.

Picus brunneifrons, *Jerd. B. Ind.* i. p. 273 (1862); *Gray, List Picid. Brit. Mus.* p. 39 (1868); *Pelz. Ibis*, 1868, p. 320; *Brooks, op. cit.* 1869, p. 47; *Beavan, t. c.* p. 412; *Brooks, Str. F.* 1875, p. 232; *Marsh. Ibis*, 1884, p. 410.

Liopipo auriceps, *Cab. & Heine, Mus. Hein.* iv. p. 45 (1863).

Dryobates brunneifrons, *Tytler, Ibis*, 1868, p. 202.

Picus incognitus *, *Scully, Str. F.* 1879, pp. 246, 365.

Adult male. Back, rump, and scapulars barred black and white, the upper back crossed by a broad band of almost uniform black; upper tail-coverts black: wings and their coverts black, the median and the greater series of the latter and both webs of the quills spotted with white; shafts nearly black; tail black, the four central feathers uniform, the next one spotted with white on the apical portion of the outer web, the two outer large feathers having the apical half, or thereabouts, white irregularly barred with black, the outer webs margined with white to the base; shafts black; nasal plumes fulvescent brown; crown umber-brown, slightly olivaceous, the hinder feathers having golden tips and the occipital feathers

* Not specifically distinct.

scarlet; nape and hind neck black: sides of the face and neck, chin and throat white narrowly striped with black, the ear-coverts smoky brown; malar region smoky brown, and behind this a black stripe down the side of the throat and fore neck; chest and under surface of the body fulvescent white striped with black; the lower part of the abdomen, the vent, and under tail-coverts pale scarlet; under wing-coverts white, with varied spots of black: axillaries fulvescent white: "base of lower mandible pale plumbeous; rest of bill bluish horny brown; legs and feet pale glaucous green; irides deep brown" (*W. Davison*). Total length 8·3 inches, culmen 1, wing 4·65, tail 3·1, tarsus 0·75; toes (without claws)—outer anterior 0·5, outer posterior 0·58, inner anterior 0·4, inner posterior 0·25.

Adult female. Wants the red occipital feathers, the occiput being only slightly yellower than the crown. In other respects it resembles the adult male. Total length 8 inches, culmen 1, wing 4·5, tail 2·9, tarsus 0·78.

Young. The male has the forehead, crown, and occiput dusky brown, with stripe-like spots of pale yellowish brown, the occipital feathers tipped with crimson. The female has the occipital feathers more golden than those of the crown, but devoid of red.

Hab. Nepal, Kumaon, and North-west Himalayas, also Cashmere and Northern Afghanistan.

a, b. ♂ ♀ ad. sk.	N.W. India.	Gould Coll.
c. ♂ ad. sk.	Cashmere (*Jerdon*).	Gould Coll.
d. ♀ ad. sk.	Pushut (*Griffith*).	India Museum.
e. ♀ ad. sk.	Agrore, May 6, 1870.	Hume Coll.
f, g. ♂ ♀ ad. sk.	Chamba, Feb., March (*C. H. T. Marshall*).	Hume Coll.
h. ♀ ad. sk.	Kotegurh, Dec. 1870.	Hume Coll.
i. ♂ ad. sk.	Murree, Aug. 1877.	Col. Way [P.].
k. ♂ ad.; *l, m.* ♀ ad. et juv. sk.	Simla, April (*R. C. Beavan*).	Tweeddale Coll.
n–d'. ♂ ad.; *e'–u'.* ♀ ad. sk.	Simla, March, Aug., Sept., Oct., Nov.	Hume Coll.
v', w'. ♂ ♀ ad. sk.	Simla (*S. Pinwill*).	Tweeddale Coll.
x', y'. ♂ ad.; *z', a''.* ♀ ad. sk.	Masuri.	Hume Coll.
b'', c''. ♂ ♀ ad. sk.	Masuri (*S. Pinwill*).	Tweeddale Coll.
d'', e''. ♂ ad. sk.	Masuri.	Pinwill Coll.
f''. ♀ ad. sk.	Dhoon, May 11, 1868 (*G. F. L. Marshall*).	Tweeddale Coll.
g''. ♂ ad.; *h''.* Juv. sk.	Kumaon (*Strachey*).	India Museum.
i''. ♂ ad. sk.	Kumaon.	Tweeddale Coll.
k''. ♀ juv. sk.	Kalee, Almorah, June 19, 1868.	Hume Coll.
l'', m'', n''. ♂ ad.; *o''.* ♀ ad. sk.	Naini Tal, Sept. 1866.	Hume Coll.
p''. ♂ ad. sk.	Naini Tal, Sept. 20, 1866.	Tweeddale Coll.
q'', r''. ♂ ♀ ad. sk.	Nepal (*B. H. Hodgson*).	India Museum.
s'', t'', u''. ♂ ad.; *v''.* ♀ ad.; *w''.* Juv. sk.	Nepal.	Hodgson Coll.

x''. ♀ ad. sk	Nepal Valley, March 2, 1878 (*J. Scully*).	Hume Coll.
y''. ♀ ad. sk.	Dolaka, Nepal, Jan. 1876 (*L. Mandelli*).	Hume Coll.

27. Dendrocopus analis.

Picus minor (*non Linn.*), *Horsf. Trans. Linn. Soc.* xiii. p. 177 (1822); *Raffl. t. c.* p. 290.

Picus analis, *Horsf. Zool. Research. Java* (1824); *Blyth, J. A. S. B.* 1849, p. 804; *Bp. Consp. Gen. Av.* i. p. 137 (1850); *Licht. Nomencl. Av.* p. 75 (1854); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 672 (1856–58); *Malh. Picidæ*, i. p. 99, pl. xxiv. figs. 5 ♂, 6 ♀ (1861); *Jerd. B. Ind.* i. p. 275 (1862); *Sundev. Consp. Av. Picin.* p. 25 (1866); *Gray, List Picid. Brit. Mus.* p. 38 (1868); *id. Hand-l. B.* ii. p. 183, no. 8564 (1870); *Hume & Oates, Str. F.* 1875, pp. 14, 57; *Armstr. op. cit.* 1876, p. 309; *Hume & Davison, Str. F.* vi. p. 123 (1878); *Tiraut, Ois. B. Cochin-Ch.* p. 88 (1879); *Vorderm. Over. Nat. Tijds. Nederl. Ind.* xlii. 2. p. 20 (1882); *Oates, Str. F.* x. p. 190 (1882); *id. B. Brit. Burm.* ii. p. 35 (1883).

Picus macei (*non Vieill.*), *Wagl. Syst. Av.* Picus, sp. 26 (1827).

Dendrocopus macei, *Hartl. Cat. Brem. Mus.* p. 91 (1844).

Picus pectoralis, *Blyth, J. A. S. B.* 1846, p. 15, 1849, p. 804; *id. Cat. B. Mus. As. Soc.* p. 63 (1849).

Picus moluccensis (*non Gm.*), *Reichenb. Scans. Picinæ*, p. 371, no. 858, pl. dcxxxvii. figs. 4239–40, ♂ ♀ (1854).

Yungipicus analis, *Bp. Consp. Volucr. Zygod.* p. 8, no. 73 (1854).

Dendrotypes analis, *Cab. & Heine, Mus. Hein.* iv. p. 47 (1863); *Salvad. Ucc. Born.* p. 40 (1874); *Wald. Ibis*, 1875, p. 463; *id. & Blyth, B. Burm.* p. 78 (1875); *Tweedd. Ibis*, 1877, pp. 285, 290; *Nicholson, op. cit.* 1879, p. 165, 1881, p. 141; *Wardl.-Rams. Tweedd. Mem.* p. 480 (1881); *Vorderm. Over. Nat. Tijds. Nederl. Ind.* xliv. 3. p. 191, no. 51 (1884).

Adult male. Back, rump, and upper tail-coverts, also the scapulars, barred black and white; wings and their coverts black or slightly brownish, the coverts and both webs of the quills spotted with white; shafts blackish brown; tail black, the central feathers spotted, the lateral ones barred across with white; shafts black; nasal plumes brownish, with black tips; base of the forehead dusky brown, spotted with smoky white; crown and occiput crimson, the feathers having black bases; nape and hind neck black; sides of the face and neck almost uniform white, the latter with a few blackish stripes; chin and upper throat uniform buffy white, the chest and the underparts duller and more fulvescent; a black malar stripe borders the throat and fore neck, the latter, as well as the chest and breast, being minutely spotted, the flanks and thighs barred with brownish black; the under tail-coverts dull white, barred and spotted with brownish black and tipped with pale red; under wing-coverts and axillaries white, the former having bar-like spots of black. Total length 6·8 inches, culmen 0·93, wing 4·1, tail 2·15, tarsus 0·75; toes (without claws)—outer anterior 0·47, outer posterior 0·6, inner anterior 0·4, inner posterior 0·28.

Adult female. Has the crown and occiput black, but is otherwise like the adult male. Total length 6·4 inches, culmen 0·8, wing 4, tail 2·1, tarsus 0·73.

Young. Have the under surface of the body smoky grey; the under tail-coverts devoid of red; the primaries more or less white at the tip; the male has the red on the top of the head more confined to the sinciput, while in the female this is wanting.

Hab. Pegu, Siam, and Cochin China; south to Malacca and South-east Sumatra, also the islands of Java, Madura, and Lombock.

a, b. ♂ ♀ ad.; *c.* Juv. sk.	Java (*Horsfield*).	India Museum. (Types of the species.)
d–i. ♂ ad.; *k, l, m.* ♀ ad.; *n–s.* Juv. sk.	Java.	Tweeddale Coll.
t. ♂ ad. sk.	Java (*Leiden Museum*).	Salvin-Godman Coll.
u. ♂ ad. sk.	E. Java.	Wallace Coll.
v. ♂ ad.; *w, x.* ♀ ad. sk.	W. Java.	F. Nicholson, Esq. [P.].
y. ♂ ad. sk.	Madura, Nov. 1871 (*A. B. Meyer*).	Tweeddale Coll.
z. ♀ ad. sk.	Lampong, S.E. Sumatra (*E. C. Buxton*).	Tweeddale Coll.
a'. Juv. sk.	Malacca.	Tweeddale Coll.
b', c'. ♀ ad. sk.	Cochin China.	Mons. E. Pierre [P.].
d', e'. ♀ ad. sk.	Bangkok, April 5, 1872 (*Capt. Conrad*).	R. Bowdler Sharpe, Esq. [P.].
f', g'. ♂ ad.; *h'.* ♀ ad. sk.	Thayetmyo.	Hume Coll.
i'. ♂ imm. sk.	Thayetmyo.	Tweeddale Coll.
k'. ♂ ad.; *l'.* ♀ ad. sk.	Pegu.	Tweeddale Coll.
m'. ♀ ad. sk.	Karen-nee, March 20, 1874 (*R. G. W. R.*).	Tweeddale Coll.
n'. Skeleton.	Java.	Purchased.

28. **Dendrocopus andamanensis.**

Picus andamanensis, *Blyth, J. A. S. B.* 1859, p. 412, note; *Jerd. B. Ind.* i. p. 275 (1862); *Blyth, App. Mouatt's Andam.* pp. 357, 358 (1863); *Sundev. Consp. Av. Picin.* p. 25 (1866); *Blyth, Ibis*, 1866, p. 221; *Beavan, op. cit.* 1867, pp. 321, 334; *Gray, List Picid. Brit. Mus.* p. 38 (1868); *id. Hand-l. B.* ii. p. 183, no. 8566 (1870); *Wald. Ibis*, 1873, p. 300; *Ball, Str. F.* 1873, p. 62; *Hume, op. cit.* 1874, p. 187; *Wardl.-Rams. Tweedd. Mem.* p. 238 (1881).

Dendrotypes andamanensis, *Cab. & Heine, Mus. Hein.* iv. p. 48 (1863).

Adult male. Resembles *D. analis*, but may be distinguished from the latter by its smaller dimensions; in having the face striped, the side of the neck, chin, and throat spotted with black or blackish; with no distinct black stripe on the malar region itself, but only indicated by a few spots, the stripe being more clearly marked

behind the malar region ; the red feathers of the crown and occiput having grey bases ; the chest covered with large spots of black ; below the chest fulvescent or olivescent brownish, the breast having faint dusky-brown stripes ; the under tail-coverts tipped with bright vermilion-red. In other respects similar to *D. analis* : " legs and feet greenish plumbeous ; upper mandible blackish or horny brown, bluish towards the base ; lower mandible plumbeous, darker at the tip ; irides brown" (*Hume*). Total length 7 inches, culmen 0·8, wing 3·75, tail 2·3, tarsus 0·65 : toes (without claws)—outer anterior 0·45, outer posterior 0·57, inner anterior 0·4, inner posterior 0·22.

Adult female. Differs from the adult male in having the crown and occiput black instead of red. Total length 6·75 inches, culmen 0·8, wing 3·7, tail 2, tarsus 0·68.

Young male. Differs from the adult male in having the red on the top of the head of a dull orange-scarlet, less extended, and more confined to the crown ; the nape less black, as are also the spots on the fore neck and chest ; the barring of the plumage more dusky ; the underparts of a more smoky-grey colour ; the feathers of the vent and the under tail-coverts tipped with a faint washed-out red.

Hab. South Andaman Islands *.

a–e. ♂ ad. et imm. ; *f, g.* ♀ ad. sk.	S. Andamans, Jan., Feb., May, July (*R. G. W. R.*).	Tweeddale Coll.
h. ♀ imm. sk.	S. Andamans.	Hume Coll.
i, k. ♂ ad. ; *l, m.* ♀ ad. et imm. sk.	Mt. Harriett, Dec., March, 1873 (*W. Davison*).	Hume Coll.
n, o. ♀ ad. ; *p.* ♂ juv. sk.	Aberdeen, May 1873 (*W. Davison*).	Hume Coll.
q, r, s. ♂ ad. ; *t, u, v.* ♀ ad. ; *w, x.* ♂ juv. sk.	Port Mouat, Jan., April 1873 (*W. Davison*).	Hume Coll.
y, z, a'. ♂ ad. ; *b', c'.* ♀ ad. et imm. ; *d'.* Juv. sk.	Port Blair, Aug., Sept. (*W. Davison*).	Hume Coll.
e'. ♂ ad. ; *f'.* ♀ ad. sk.	Port Blair, July 1873 (*R. J. Wimberley*).	R. Bowdler Sharpe, Esq. [P.].
g'. ♀ ad. sk.	Stewart Sound, April 1873 (*W. Davison*).	Hume Coll.
h'. ♂ ad. sk.	Macpherson's Straits, March 7, 1873 (*W. Davison*).	Hume Coll.

29. Dendrocopus leuconotus.

Picus leucotos, *Bechst. Orn. Taschenb.* i. p. 66, ♀ (1802) ; *Brehm, Vög. Deutschl.* p. 190 (1831).

Picus leuconotus, *Bechst. Naturg. Deutschl.* ii. p. 1034, pl. xxv. figs

* Blyth (Ibis, 1866, p. 221) states that this species inhabits Sumatra. It is more probable that the bird referred to is *D. analis*, which is known to be found in that island.

1 ♂, 2 ♀ (1805); *Meyer & Wolf, Taschenb. Deutsch.* i. p. 123 (1810); *Meyer, Vög. Liv- u. Esth.* p. 60 (1815); *Nilss. Orn. Suec.* i. p. 107 (1817); *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 73 (1818); *Temm. Man. d'Orn.* i. p. 396, iii. p. 282 (1820); *Brehm, Naturgesch. eur. Vög.* i. p. 138 (1823); *Naum. Vög. Deutschl.* v. p. 313, pl. 135. figs. 1 ♂, 2 ♀ (1826); *Wagl. Syst. Av.* Picus, sp. 19 (1827); *Werner, Atlas,* pl. 204, ♂ ad. (1827); *Drap. Dict. Classif.* xiii. p. 501 (1828); *Less. Traité,* i. p. 218 (1831); *Glog. Handb. Naturgesch. Vög. Eur.* p. 460 (1834); *Nilss. Skand. Faun.* i. p. 128 (1835); *Bp. Comp. List B. Eur. & N. Amer.* p. 39, no. 266 (1838); *Keys. & Blas. Wirb. Eur.* pp. 148 & xxxiv (1840); *Gray, Gen. B.* ii. p. 435 (1845); *Malh. N. Classif., Mém. Acad. Metz,* 1848–49, p. 327; *Bp. Consp. Gen. Av.* i. p. 135 (1850); *Reichenb. Scans. Picinæ,* p. 366, no. 846, pl. dcxxxiv. fig. 4217, ♀ (1854); *Licht. Nomencl. Av.* p. 75 (1854); *Brehm, Vogelf.* p. 69 (1855); *Sundev. Sv. Fogl.* p. 141, pl. xxii. figs. 4 ♂, 5 ♀ (1856); *M. Von Wright, Finl. Fogl.* p. 271 (1859); *Schrenck, Amur-Reise,* i. p. 262 (1859); *Malh. Picidæ,* i. p. 89, pl. xxiii. figs. 1–2 ♂ ♀ (1861), ii. *Add.* p. 294 (1862); *Bree, B. Eur.* iii. p. 142, pl. ♂ (1862); *Swinh. P. Z. S.* 1863, p. 333; *Prév. & Lem. Hist. Nat. Ois. d'Eur.* p. 169 (1864); *Sundev. Consp. Av. Picin.* p. 24 (1866); *Degl. & Gerbe, Orn. Eur.* i. p. 151 (1867); *Gray, List Picid. Brit. Mus.* p. 35 (1868); *Borggr. Vogelf. Norddeutschl.* p. 67 (1869); *Gray, Hand-l. B.* ii. p. 182, no. 8552 (1870); *Salvad. Faun. Ital., Ucc.* p. 38 (1871); *Dress. B. Eur.* v. p. 39, pl. cclxxix., ♂ ♀ ad. (1871); *Altum, Zool. Gart.* 1872, pp. 369, 371; *Gould, B. Gt. Brit.* iii. pl. lxxi., ♂ ♀ ad. only (1873); *Alst. & Harv.-Br. Ibis.* 1873, p. 59; *Danf. & Harv.-Br. op. cit.* 1875, p. 299; *D'Hamonv. Cat. Ois. d'Eur.* p. 10 (1876); *Tacz. Bull. Soc. Zool. Fr.* 1877, p. 152; *Gigl. Ibis,* 1881, p. 190; *Madar. Syst. Aufz. Ungarns,* p. 23 (1881); *Collett, Norg. Fuglef.* p. 309 (1881); *Seeb. Ibis,* 1882, pp. 209, 374; *Carls. Kongl. Vetensk.-Akad. Förhandl.* 1882, i. p. 30; *Marsch. & Pelz. Orn. Vindob.* p. 91 (1882); *Radde, Orn. Cauc.* p. 314 (1884); *Gigl. Avif. Ital.* p. 201 (1886); *Tacz. P. Z. S.* 1888, p. 466.

Picus leuconothus, *Bonn. & Vieill. Enc. Méth.* iii. p. 1302 (1823).

Picus leuconotos, *Valenc. Dict. Sc. Nat.* xl. p. 179 (1826); *Schinz, Eur. Faun.* i. p. 262 (1840).

Dendromas leuconotus, *Kaup, Natur. Syst.* p. 136 (1829); *Gray, App. List Gen. B.* 1842, p. 12; *id. List Gen.* 1855, p. 91; *Cab. & Heine, Mus. Hein.* iv. p. 39 (1863).

Pipripicus leuconotus, *Bp. Consp. Volucr. Zygod.* p. 8, no. 50 (1854).

Picus polonicus, *Brehm, Vogelf.* p. 69 (1855).

Dendrocopus leuconotus, *Menzb. Rev. Comp. Faun. Orn. Gouv. Mosc. & Toula,* p. 7 (1883).

Adult male. Upper half of the back, rump, and upper tail-coverts uniform black; lower back white, crossed by a black bar anteriorly; scapulars black, the apical portion white; wings and their coverts black, the median and the greater series with a row of white spots, forming a bar upon each, the quills having both webs spotted with white; shafts blackish brown; the four central tail-feathers uniform black, the next feather black, barred at the tip with buffy white, the two outer large feathers having the apical half or two-thirds white barred with black; shafts of the same colour as the

surrounding web; nasal plumes and forehead buffy white, the former tipped with black; crown and occiput red, the bases of the feathers leaden grey; nape and hind neck black; sides of the face and neck, chin, throat and underparts white, the lower breast, abdomen, vent, and under tail-coverts washed with rose-red; a black malar stripe sends off a branch behind the ear-coverts, but does not join the nape, and descending, borders the fore neck and runs on to the chest, the sides of which as well as of the breast, together with the flanks and thighs, are narrowly striped with black, the latter parts slightly rosy; under wing-coverts and axillaries white, the former having a few stripes and spots of dusky black. Total length 10 inches, culmen 1·38, wing 5·62, tail 3·35, tarsus 1·05; toes (without claws)—outer anterior 0·66, outer posterior 0·72, inner anterior 0·56, inner posterior 0·4.

Young male. Differs from the adult male in having the feathers of the crown and occiput tipped with dull reddish orange, and not scarlet as in the old male; the sides of the body, flanks, and thighs smoky in colour; the striations on the side of the breast of a less intense black, those on the flanks and thighs being very faint and having a washed-out appearance; the abdomen, vent, and under tail-coverts with the faintest rosy tinge: the lateral tail-feathers very much whiter and without the orange-brown tips, the two large outer feathers on either side white, with transverse spots of black on the inner webs, the innermost of these having the base black; the six central feathers black, the outermost of these having only the apical margin of the outer web and the tip of the inner web white; the primaries tipped with a V-shaped marking of white.

Adult female. Differs from the adult male in wanting the red on the crown and occiput, these being black. Total length 9·8 inches, culmen 1·4, wing 5·66, tail 3·45, tarsus 1·02.

Hab. North-western and Central Europe, south to the northern part of Italy; Dalmatia and Turkey, and extending through Southern Russia and Southern Siberia into Manchouria, Corea, and Mongolia.

a, *b*. ♂ ♀ imm. sk.	Europe.	Purchased.
c. ♂ ad.; *d*. ♀ imm. sk.	Sweden (*H. Wheelwright*).	Tweeddale Coll.
e. ♀ ad.; *f*. ♂ imm. sk.	Sweden, March, Dec.	Gould Coll.
g. ♂ ad. sk.	Wermland, Dec.	Mr. Meves [C.].
h. ♀ ad. sk.	Zabadagh, Turkey, Dec.	Hume Coll.
i. ♂ juv. sk.	Onega, N. Russia (*Meves*).	Salvin-Godman Coll.
k. ♀ ad. sk.	Kandagatai, Mongolia.	Dr. Severtzoff [C.].
l, *m*, *n*. ♂ ad.; *o*. ♀ ad.; *p*. ♂ juv. sk.	S. Manchouria, June, July.	Dr. James [P.].
q, *r*. ♂ ♀ ad. sk.	Ussuri River, E. Siberia, Oct., Nov. 1873.	Warsaw Museum.

Subsp. *a*. **Dendrocopus cirris.**

Picus cirris, *Pall. Zoogr. Rosso-Asiat.* i. p. 410 (1831); *Brehm, Vollst. Vogelf.* p. 69 (1855); *Sundev. Consp. Av. Picin.* p. 24 (1866).

Picus leuconotus (*non Bechst.*), *Gould, B. Eur.* pl. (1837); *Malh. N. Classif., Mém. Acad. Metz,* 1848–49, p. 327 (pt.); *Middend. Sib. Reise, Zool.* p. 132 (1851); *Reichenb. Scans. Picinæ,* p. 367, no. 846, pl. dcxxxiv. fig. 4218, ♂ (1854), pt.; *Licht. Nomencl. Av.* p. 75 (1854), pt.; *Tacz. Bull. Soc. Zool. Fr.* 1876, p. 239, 1878, p. 139; *Finsch, Verhandl. k. k. zool.-bot. Gesellsch. Wien,* 1879, p. 227; *Bolau, J. f. O.* 1882, p. 337.

Pipripicus uralensis (*Malh.*), *Bp. Consp. Volucr. Zygod.* p. 8, no. 51 (1854).

Picus uralensis, *Malh. Picidæ,* i. p. 92, pl. xxiii. figs. 4, 5, ♂ ♀ (1861).

Dendrodromas cirris, *Cab. et Heine, Mus. Hein.* iv. p. 39, note (1863).

Adult male. Differs from *D. leuconotus* in having a greater amount of white upon the wing-coverts, scapulars, back, and innermost secondaries, occupying upon some of the latter almost the apical half of the feather; the striations on the underparts are narrower, and the lateral tail-feathers less distinctly barred, the outer webs being nearly uniform, and having at most one or two small spots of black; the dimensions are slightly greater. Total length 11 inches, culmen 1·7, wing 5·8, tail 3·6, tarsus 1·05; toes (without claws)—outer anterior 0·6, outer posterior 0·7, inner anterior 0·55, inner posterior 0·38.

Adult female. Differs from the adult male in wanting the red on the crown and occiput, these being black, the partially exposed white bases of the feathers of the fore part of the crown showing, and producing a spotted appearance. Total length 10·5 inches, culmen 1·5, wing 5·8, tail 3·55, tarsus 1.

Hab. Central and Eastern Siberia, and westward into Central Russia. Exact limits of range not known.

a. ♂ ad. sk.	Upper Ural River, Ural Mts., Oct. 5th.	Dr. Severtzoff [C.].

Subsp. *β*. **Dendrocopus subcirris.**

Picus leuconotus (*non Bechst.*), *Blakist. Ibis,* 1862, p. 325; *Swinh. op. cit.* 1875, p. 451; *Blakist. & Pryer, op. cit.* 1878, p. 229; *iid. Trans. As. Soc. Jap.* 1880, p. 208, 1882, p. 133; *Blakist. Chrysanth.* 1883, pp. 28, 77; *Jouy, Proc. U.S. Nat. Mus.* 1883, p. 307; *Blakist. Amend. List B. Jap.* p. 13, no. 169 (1884).

Picus uralensis (*non Malh.*), *Whitely, Ibis,* 1867, p. 195; *Gray, List Picid. Brit. Mus.* p. 35 (1868); *id. Hand-l. B.* ii. p. 182, no. 8553 (1870).

Dryobates subcirris, *Stejneger, Proc. U.S. Nat. Mus.* 1886, p. 113.

Adult male. Differs from *D. leuconotus* in having the face, neck, and the under surface of the body clear pale buff, and the black striations rather broader, the underparts below the breast being washed with brighter red; there is also less white on the back, and this has a yellow tinge; the bill is longer and more powerful.

Total length 10·5 inches, culmen 1·65, wing 5·85, tail 3·65, tarsus 1·08; toes (without claws)—outer anterior 0·72, outer posterior 0·9, inner anterior 0·65, inner posterior 0·4.

Young male. Has the crown orange-red.

Adult female. Differs from the adult male in the absence of the red on the crown and occiput, these being intense black. Total length 11·5 inches, culmen 1·55, wing 6·15, tail 3·8, tarsus 1·1.

Hab. Japan (the northern half of the Main Island and Yezo).

a, b. ♂ ♀ ad. sk.	Hakodadi, Japan, Dec. (*H. Whitely*).	Gould Coll.
c, d. ♀ ad. sk.	Hakodadi, Nov., Dec.	H. Whitely [C.].

Subsp. γ. **Dendrocopus lilfordi.**

Picus leuconotus (*non Bechst.*), *v. d. Mühle, Orn. Griechenl.* p. 30 (1844); *Linderm. Vög. Griechenl.* p. 42 (1860); *Powys, Ibis*, 1860, pp. 234, 341; *Elw. & Buckl. op. cit.* 1870, p. 188.

Picus lilfordi, *Sharpe & Dress. Ann. & Mag. Nat. Hist.* 1871, p. 436; *Danf. Ibis*, 1877, p. 264, 1878, p. 6; *Giyl. op. cit.* 1881, p. 190; *id. Arif. Ital.* p. 202 (1886).

Adult male. Resembles *D. leuconotus*, but differs in having the lower back entirely and broadly barred with black; the black stripe which runs down the side of the throat and chest much broader, and the branch from it which runs behind the ear-coverts uniting with the nape; the striations on the sides of the body broader and the thighs barred with black; the under tail-coverts striped with blackish brown; the black bars on the lateral tail-feathers broader, and the under wing-coverts very much more varied with black. Total length 10·5 inches, culmen 1·6, wing 5·85, tail 3·75, tarsus 1·05; toes (without claws)—outer anterior 0·65, outer posterior 0·75, inner anterior 0·6, inner posterior 0·38.

Adult female. Differs from the adult male in having the crown and occiput black. Total length 10·5 inches, culmen 1·5, wing 5·75, tail 3·5, tarsus 1.

Mr. Danford gives the soft parts of this species as follows: "Iris red; bill and legs slate-coloured."

Hab. Greece, Turkey, and the Ionian Islands, extending into Dalmatia, and has occurred as far west as Ancona and Genoa. In Asia Minor it is found in the Taurus range.

a. Ad. sk.	Europe.	Zoological Society.
b, c. ♂ ♀ ad. sk.	Asia Minor, March.	Salvin-Godman Coll.

30. **Dendrocopus insularis.**

Picus insularis, *Gould, P. Z. S.* 1862, p. 283; *Swinh. op. cit.* 1863, p. 333; *id. Ibis*, 1883, p. 390; *Gould, B. Asia*, vi. pl. xvi., ♂ ♀ ad. (1864); *Sundev. Consp. Av. Picin.* p. 24 (1866); *Gray, List. Picid. Brit. Mus.* p. 35 (1868); *id. Hand-l. B.* ii. p. 182, no. 8554 (1870); *Swinh. P. Z. S.* 1871, p. 392; *Elwes, op. cit.* 1873, p. 667; *David & Oust. Ois. Chine*, p. 49 (1877).

Dendrodromas insularis, *Cab. & Heine, Mus. Hein.* iv. p. 38 (1863).

Adult male. Upper and middle back, rump, and upper tail-coverts uniform black; the lower back white, narrowly barred with black; scapulars black, tipped with white; wings and their coverts black, a few of the central median coverts and both webs of the quills spotted with white; shafts black; the four central tail-feathers uniform black, the next one black, spotted with white on the apical portion of the outer web, the two outer large feathers on either side having their apical half barred with white; shafts black; nasal plumes buffy white, broadly tipped with black; frontal band buff; crown and occiput crimson, bases of the feathers black; nape and hind neck black; sides of the face and neck, chin, throat, and fore neck white, the ear-coverts fulvescent, the remaining underparts (except the abdomen, vent, and under tail-coverts, which are rose-red) being fulvescent white; a broad black malar stripe, after sending off a branch behind the ear-coverts (but not joining the nape), extends down the side of the fore neck and chest, uniting on the latter with the corresponding stripe and sending off numerous broad stripes of black, the remaining fulvescent white underparts being broadly striped with black; the under tail-coverts with a few blackish stripes; under wing-coverts and axillaries white, the former with a few large black spots, the edge of the wing conspicuously black: "irides red; bill horny; feet lead-colour" (*David*). Total length 9 inches, culmen 1·45, wing 5·25, tail 3·15, tarsus 1; toes (without claws)—outer anterior 0·65, outer posterior 0·78, inner anterior 0·55, inner posterior 0·4.

Young male. Has the crown orange-red.

Adult female. Differs from the adult male in the absence of the red on the crown and occiput, these being black. Total length 9 inches, culmen 1·35, wing 5·3, tail 3·15, tarsus 1.

Hab. The island of Formosa.

a, *b*. ♂ ♀ ad. sk.	N. Formosa.	Purchased.
c. ♂ ad. sk.	Tamsui, Formosa, Dec. 1876 (*R. Swinhoe*).	Hume Coll.
d. ♀ ad. sk.	Tamsui, Dec. 1866 (*R. Swinhoe*).	Tweeddale Coll.

31. Dendrocopus namiyei.

Picus leuconotus (*non Bechst.*), *Blakist. & Pryer, Trans. As. Soc. Jap.* x. p. 133 (1882).

Dryobates namiyei, *Stejn. Proc. U.S. Nat. Mus.* 1886, p. 116.

Adult male. Resembles *D. insularis* of Gould, from Formosa, but is larger (excepting the tail) and has less white upon the lower back, this being confined to three bars across; there is also more red on the under surface of the body, this colour extending on to the breast; the broad black stripe which borders the chin, throat, and fore neck, and extends on to the side of the chest, does not unite with the corresponding stripe and form a distinct crescentic band, there being only an approach to this in the form of a few stripe-like spots of black on the central chest-feathers, a few of these being tinged

with dull carmine. Dimensions: "Wing 146 mm., tail-feathers 88 mm., exposed culmen 34 mm., ext. ant. toe (without claw) 18 mm." (*Stejneger*) *.

Hab. Japan, south-western portion of Main Island.

16. PICOIDES.

Type.

Picoides, *Lacép. Mém. de l'Institute, Paris*, iii. p. 509 (1801). ..... P. tridactylus.
Tridactylia, *Shaw, Gen. Zool.* ix. p. 218 (1815) ..... P. americanus.
Apternus, *Swains. Faun. Bor.-Amer.* ii. p. 302 (1831). P. americanus.
Pipodes, *Glog. Handb. Naturg.* p. 198 (1842). ..... P. tridactylus.

Range. Northern and Central Europe; Siberia; south into China; Kamtschatka; Alaska and Northern North America to the border of the United States, and on the west along the Rocky Mountain region south into New Mexico.

Key to the Species †.

A. Back white, broadly striped with black.
  a'. Lateral tail-feathers almost entirely barred with black.
    a''. Sides of the chest broadly striped, the sides of the body broadly barred with black ..... *tridactylus* ad., [p. 276.
    b''. Sides of the chest and breast with only a few narrow striations, the flanks and thighs sparingly spotted with black ..... *crissoleucus* ad. [summer, pp. 277–8.
  b'. Lateral tail-feathers uniform; with scarcely any white on the top of the head ..... *dorsalis* ad., p. 278.
B. Back uniform white; under surface of the body uniform pure white; lateral tail-feathers uniform or partially barred ..... *crissoleucus* ad. [winter, p. 278.
C. Back barred.
  c'. Back distinctly barred with white, the bars narrower than the black interspaces ..... *americanus* ad., [p. 280.
  d'. Back irregularly barred with white, the bars broader than the black interspaces and sometimes confluent in the centre and forming a partial stripe ..... *alascensis* ad., [p. 281.
D. Back uniform blue-black ..... *arcticus* ad., [pp. 282–3.

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* Dr. Stejneger, in the 'Proceedings of the United States National Museum,' 1886, p. 116, has given a full description of the type specimen, which need not here be repeated. In his diagnosis of the species he has been compelled (for want of a specimen of *D. insularis*) to compare his bird with *D. leuconotus*. I have founded my brief diagnosis upon Dr. Stejneger's description and plate, compared with *D. insularis*.

† The males of all the species comprised in this genus may be known by their yellow crowns.

E. Back brownish black, with a narrow and broken median stripe of white; under surface of the body brownish black spotted with white; throat and fore neck, also two stripes across the face and down the side of the neck, pale buff ..... *funebris* ♂ juv.*, [p. 283.

1. Picoides tridactylus.

Picus tridactylus, *Linn. Syst. Nat.* i. p. 177 (1766); *Gm. Syst. Nat.* i. p. 439 (1788); *Lath. Ind. Orn.* i. p. 243 (1790); *Meyer, Vög. Liv- u. Esth.* p. 63 (1815); *Meisn. & Schinz, Vög. Schweiz*, 1815, p. 42; *Nilss. Orn. Suec.* i. p. 112 (1817); *Cuv. Règ. Anim.* 1817, i. p. 423; *Wagl. Syst. Av.* Picus, sp. 101 (1827); *Brehm, Naturg. Eur. Vög.* i. p. 142 (1823); *Naum. Vög. Deutsch.* v. p. 346, pl. cxxxvii. figs. 1 ♂, 2 ♀ ad. (1826); *Glog. Handb. Naturgesch. Vög. Eur.* p. 462 (1834); *Gould, B. Eur.* iii. pl. 232, ♂ ♀ ad. (1837); *Keys. & Blas. Wirb. Eur.* pp. xxxv and 149 (1840); *Schinz, Eur. Faun.* p. 263 (1840); *Schleg. Rev. Crit.* p. 1 (1844); *Sundev. Sv. Fogl.* p. 142, pl. xxiii. fig. 6, ♂ (1856); *Magnus v. Wright, Finl. Fogl.* p. 275 (1859); *Dubois, Ois. Eur.* p. 112, pl. cxii., ♂ ♀ ad. (1862); *Prév. & Lemaire, Hist. Nat. Ois. Eur.* p. 175 (1864); *Sundev. Consp. Av. Picin.* p. 14 (1866); *Borggr. Vogelf. Norddeutschl.* p. 68 (1869); *Finsch, Verhandl. k. k. zool.-bot. Gesellsch. Wien*, 1879, p. 227; *Seeb. Ibis*, 1882, p. 374.

Picoides tridactylus, *Lacép. Mém. de l'Inst.* 1801, p. 509; *Kaup, Naturg. Syst.* 1829, p. 135; *Gray, Gen. B.* ii. p. 434 (1845); *Degl. & Gerbe, Orn. Eur.* i. p. 154 (1867); *Gray, List Picid. Brit. Mus.* p. 30 (1868); *id. Hand-l. B.* ii. p. 181, no. 8536 (1870); *Salvad. Faun. Ital., Ucc.* p. 39 (1871); *Dress. B. Eur.* v. p. 69, pl. cclxxxiv., ♂ ♀ ad. (1872); *Danf. & Harv.-Br. Ibis*, 1875, p. 299; *Dress. Ibis*, 1876, p. 320; *d'Hamonv. Cat. Ois. d'Eur.* p. 10 (1876); *Harv.-Brown, Ann. & Mag. Nat. Hist.* 1877, xx. p. 496; *Gigl. Ibis*, 1881, p. 190; *Madar. Vög. Ung.* 1881, p. 23; *B. O. U. List Brit. B.* p. 78 (1883); *Menzb. Rer. Comp. Faun. Orn. Gouv. Mosc. & Toula*, 1883, p. 7; *Gigl. Avif. Ital.* p. 205 (1886).

Tridactylia hirsuta, *Steph. Gen. Zool.* ix. p. 219, pl. xxxviii., ♂ (1815); *Cab. & Heine, Mus. Hein.* iv. p. 25 (1863).

Dendrocopos tridactylus, *Koch, Syst. baier. Zool.* i. p. 74 (1816).

Picus hirsutus, *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 103 (1818), pt.; *id. & Bonn. Enc. Méth.* iii. p. 1324 (1823), pt.

Picoides variegatus, *Valenc. Dict. Sc. Nat.* xl. p. 191 (1826), pt.

Dryobates tridactylus, *Boie, Isis*, 1828, p. 326.

Picoides europæus, *Less. Traité*, i. p. 217 (1831); *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 329; *id. Picidæ*, i. p. 170, pl. xxxviii. figs. 1, 2, 3, 6 (1861).

Picoides alpinus, *Brehm, Vög. Deutschl.* p. 194 (1831); *id. Vollst. Vög.* p. 71 (1855).

Picoides montanus, *Brehm, Vög. Deutschl.* p. 194, pl. xiv., ♂ ad. (1831); *id. Vollst. Vög.* p. 71 (1855).

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* The type only is known, and exists in the Paris Museum. It is very probable that the female will be found to want the yellow crown possessed by the male.

Apternus tridactylus, *Swains. Faun. Bor.-Amer.* ii. p. 301 (1831); *id. Classif. B.* ii. p. 306 (1837); *Bp. Comp. List B. Eur. & N. Amer.* p. 39, no. 270 (1838); *id. Consp. Gen. Av.* i. p. 139 (1850); *id. Consp. Volucr. Zygod.* p. 8, no. 81 (1854); *Reichenb. Scans. Picinæ*, p. 316, no. 835, pl. dcxxxi., *A. montanus*, figs. 4201-02, *A. septentrionalis*, figs. 4195-96, *A. alpinus*, figs. 4199-4200 (1854); *Schrenck, Amur-Reise*, i. p. 264 (1859); *Russow, Orn. Ehst-, Liv- u. Curl.* 1880, p. 115; *Marsch. & Pelz. Orn. Vindob.* 1882, p. 91.

Picoides septentrionalis, *Brehm, Vög. Deutschl.* p. 195 (1831); *id. Vollst. Vög.* p. 71 (1855).

Picoides longirostris, *Brehm. Vollst. Vög.* p. 71 (1855).

Tridactylia tridactylus, *Meves, Eur. Vög.* 1886, p. 24.

Adult male. Back white, broadly striped with black; scapulars, rump, and upper tail-coverts uniform brownish black, or the rump sometimes spotted with white; wings and their coverts brownish black, the quills (except on the outer webs of the inner secondaries) spotted with white upon both webs; shafts brown; tail black, the two outer large feathers barred with white on the apical half; shafts black; nasal plumes black varied with white; forehead black broadly striped with white; the crown-feathers tipped with yellow and having black bases with an intermediate white spot; occiput and nape blue-black, the occipital feathers tipped with white; face and neck, and the underparts from the chin to the vent (both inclusive) white; a broad blue-black stripe from behind the eye runs down the side of the neck, and a black malar stripe borders the throat and fore neck and branches out into a number of broad stripes on the side of the chest and breast, the malar region spotted with white; the sides of the body, flanks, and thighs barred with black; under tail-coverts white on the apical portion, the bases black and partly showing as a stripe-like spot; under wing-coverts white barred with black. Total length 8·5 inches, culmen 1·25, wing 4·95, tail 3·3, tarsus 0·8; toes (without claws)—outer anterior 0·4, inner anterior 0·25, posterior 0·45.

Young male. Has the dark portions of the plumage of a sooty brown and totally devoid of any blue-black gloss, even on the head; there is very much less yellow and white on the top of the head, the white having the character of distinct spots; the underparts are duller and there is more dusky black on the sides of the body, and a few dusky crescentic markings in the middle of the chest.

Adult female. Differs from the adult male in the absence of the yellow on the top of the head, the feathers of the forehead and crown being black at the base, the apical portion white, with a black shaft-stripe. Total length 8·5 inches, culmen 1·15, wing 4·65, tail 3, tarsus 0·8.

Examples from Switzerland have the underparts (except the middle of the breast and abdomen) very much varied with black, and the white stripe down the back is also varied with sagittate and transverse black markings, these, in some specimens, forming distinct bars across the feathers. This peculiar form is deserving of recog-

nition, although, from its geographical position, it might be unwise to separate it from *P. tridactylus*.

Hab. The greater part of Europe, but rare in the south; extending east through Southern Siberia to the Amoor, and into Mongolia.

a, b. ♂ ♀ ad. st.	N. Bothnia.	Purchased.
c, d. ♂ ad.; *e.* ♂ imm. sk.	Sweden, Dec. (*Wheelwright*).	Tweeddale Coll.
f, g. ♂ ad.; *h.* ♂ imm. sk.	Kopvand.	Salvin-Godman Coll.
i. ♂ ad. sk.	Stockholm, Jan.	Mr. Meves [C.].
k, l. ♂ ♀ ad. sk.	Wermland.	Mr. Meves [C.].
m. ♀ ad. sk.	Wermland, Dec. (*Schlüter*).	Hume Coll.
n, o. ♂ ♀ ad. sk.	Archangel, Nov., Dec.	Hume Coll.
p, q. ♂ ♀ ad. sk.	Ursern, Switzerland, Aug. (*H. Saunders*).	Tweeddale Coll.
r. ♂ ad. sk.	Nisamskaja, River Ob, Sept. 1876.	Dr. O. Finsch [C.].
s. Juv. sk.	Lepsa River, Turkestan, June.	Moscow Museum.
t, u. ♂ ♀ ad. sk.	Semiretchje, May 27th.	Dr. Severtzoff [C.].
v. ♀ ad. sk.	Kossogol, Mongolia, Sept. 17th.	Dr. Severtzoff [C.].
w. ♂ ad. sk.	Teksa River, Mongolia, Aug. 19th.	Dr. Severtzoff [C.].
x. Skull.	S. Germany.	Dr. Günther.
y. Sternum.		Purchased.

Subsp. *a.* Picoides crissoleucus.

Picus tridactylus (*non Linn.*), *Pallas, Zoogr. Rosso-Asiat.* i. p. 415 (1831); *Middend. Sib.-Reise, Zool.* p. 132 (1851).
Apternus crissoleucos, *Bp. Consp. Volucr. Zygod.* p. 8, no. 82 (1854).
Tridactylia camtschatcensis, *Licht. Nomencl. Av.* 1854, p. 75 (pt.); *Cab. & Heine, Mus. Hein.* iv. p. 25 (1863).
Apternus crissoleucus, *Reichenb. Scans. Picinæ*, p. 362, no. 836, pl. dcxxxi. figs. 4197–98, ♂ ♀ (1854).
Picoides crissoleucus, *Malh. Picidæ*, i. p. 180, pl. xl. figs. 1 ♂ ad., 2 ♀ ad., 5 ♂ juv. (1861); *Gray, List Picid. Brit. Mus.* p. 30 (1868); *id. Hand-l. B.* ii. p. 181, no. 8540 (1870); *Tacz. Bull. Soc. Zool. France*, 1876, p. 240; *id. op. cit.* 1882, p. 396.
Picus crissoleucus, *Sundev. Consp. Av. Picin.* p. 14 (1866).
Picoides tridactylus (*non Linn.*), *Seeb. Ibis*, 1878, p. 325.
Picoides albidior*, *Stejn. Bull. U. S. Nat. Mus.* no. 29, 1885, pp. 321, 338, 342; *id. Proc. U. S. Nat. Mus.* 1888, p. 168.

Adult male, summer plumage. Resembles *P. tridactylus*, but differs in the sides of the chest and breast having only a few narrow striations of black, and the flanks and thighs being sparingly spotted with black; the lower scapulars tipped with white, and the wing-coverts occasionally spotted with white; upper series of upper tail-coverts spotted with white; the white on the back is less striped

* I have carefully examined the type of Stejneger's species, and cannot separate it from *P. crissoleucus*.

with black. Total length 8·5 inches, culmen 1·3, wing 4·9, tail 3·2, tarsus 0·78; toes (without claws)—outer anterior 0·46, inner anterior 0·4, posterior 0·54.

Adult female, summer plumage. Wants the yellow crown, the feathers of this region having white tips and black bases. With the exception of this sexual distinction, it resembles the adult male in summer. Total length 8·2 inches, culmen 1·15, wing 4·78, tail 3·1, tarsus 0·78.

Adult, winter plumage. The back and the under surface of the body are pure white and uniform; all the upper tail-coverts tipped with white or spotted with white on the tip; the lateral tail-feathers are less barred with black and sometimes without a trace of bar or spot; axillaries pure white, and the under wing-coverts sometimes unspotted; the white spots on the quills occasionally confluent.

Hab. Central and Northern Siberia, and Kamtschatka.

a. ♂ imm. sk.	Siberia.	Tweeddale Coll.
b. ♀ ad. sk.	Krasnoyarsk, Central Siberia, Oct. (*H. Seebohm*).	Tweeddale Coll.

2. Picoides dorsalis.

Picoides dorsalis, *Baird, B. N. Amer.* p. 100, pl. lxxxv. fig. 1, ♂ (1858); *Malh. Picidæ*, i. p. 179 (1861); *Cass. Proc. Acad. Philad.* 1863, p. 203; *Gray, List Picid. Brit. Mus.* p. 31 (1868); *id. Hand-l. B.* ii. p. 181, no. 8538 (1870); *Merriam, U. S. Geol. Surv. Terr.* 1872, p. 694.

Tridactylia dorsalis, *Cab. & Heine, Mus. Hein.* iv. p. 26 (1863).

Picus dorsalis, *Sundev. Consp. Av. Picin.* p. 14 (1866).

Picoides americanus, var. dorsalis, *Coop. B. Calif., ed. Baird*, i. p. 386, head figured (1870); *Coues, Key N. Amer. B.* 1872, p. 194; *Allen, Bull. M. C. Z.* iii. p. 180 (1872); *Coues, B. N.-West*, p. 285 (1874); *Hensh. U. S. Geogr. Surv. W. of 100th Merid.* 1875, p. 391.

Picoides tridactylus dorsalis, *Ridgw. Proc. U. S. Nat. Mus.* 1880, p. 189; *Drew, Auk*, 1885, p. 17; *Hensh. op. cit.* 1886, p. 78.

Picoides americanus dorsalis, *Coues, Check-list N. Amer. B.* 2nd ed. p. 78 (1882); *id. Key N. Amer. B.* 2nd ed. 1884, p. 485; *A. O. U. Check-list N. Amer. B.* p. 214, no. 401 *b* (1886); *Ridgw. Man. N. Amer. B.* p. 287 (1887).

Picoides americanus (*non Brehm*), *Hartl. J. f. O.* 1883, p. 275.

Adult male. Resembles *P. tridactylus*, but differs in having the lateral tail-feathers uniform; the rump is more spotted with white, and there is also very much less black on the sides of the chest and body, flanks and thighs; the under tail-coverts have more of the apical portion white, and the black on the basal portion does not show; the dimensions are also less. Total length 8 inches, culmen 1·27, wing 4·85, tail 2·8, tarsus 0·88; toes (without claws)—outer anterior 0·45, inner anterior 0·4, posterior 0·53.

Adult female. Wants the yellow patch on the top of the head, the crown being blue-black sparingly spotted with white; there is also

less white on the top of the head than in *P. tridactylus*. Total length 8 inches, culmen 1·1, wing 4·7, tail 3, tarsus 0·83.

Hab. Rocky Mountain region of the United States, north to Alaska (south of the mountains) and south into New Mexico.

a. ♂ imm. sk.	Fort Bridger, Wyoming, Sept. (*Henshaw*).	Henshaw Coll. [S.-G.]
b. [♀ juv.] sk.	Santa Fé Mts., New Mexico, Aug. 27, 1883 (*Henshaw*).	
c–h. ♂ ad. et juv.; *i, k.* ♀ ad. sk.	Santa Fé Mts., New Mexico, Aug., Sept., Oct. (*Henshaw*).	
l. ♂ imm. sk.	Rio Grande, New Mexico, Sept. (*H. Wheeler*).	

3. Picoides americanus.

Picus tridactylus (pt.), *Gm. Syst. Nat.* i. p. 439 (1788); *Lath. Ind. Orn.* i. p. 243 (1790); *Nutt. Man. Orn.* 1832, p. 578; *Peab. Bost. Journ. Nat. Hist.* 1841, p. 175.

Picus tridactylus (*non Linn.*), *Bp. Syn. B. U. S.* p. 46, no. 46 (1826).

Picoides variegatus (pt.), *Valenc. Dict. Sc. Nat.* xl. p. 191 (1826).

Picus hirsutus (*non Steph.*), *Wagler, Syst. Av.* Picus, sp. 132 (1827); *Aud. B. Amer.* iv. p. 268, pl. 269, ♂ ♀ ad. (1839); *id. Orn. Biogr.* v. p. 184, pl. ccccxvii. figs. 3–4, ♂ ♀ ad. (1839); *De Kay, Nat. Hist. N. York*, pt. 2, p. 191, pl. xvii. (1844); *Putnam, Proc. Essex Inst.* 1856, p. 229.

Picoides americanus, *Brehm, Vög. Deutschl.* 1831, p. 195; *Malh. Picidæ*, i. p. 176, pl. xxxix. figs. 1 ♂, 2 ♀ (1861); *Sclat. Cat. Amer. B.* p. 335, no. 1998 (1862); *Gray, List Picid. Brit. Mus.* p. 30 (1868); *id. Hand-l. B.* ii. p. 181, no. 8537 (1870); *Coues, Key N. Amer. B.* p. 194 (1872); *id. B. N.-West*, p. 284 (1874); *Merrium, Bull. Nutt. Orn. Club*, 1879, p. 6; *Coues, Check-list N. Amer. B.* 2nd ed. p. 78 (1882); *id. Key N. Amer. B.* 2nd ed. 1884, p. 485; *Turner, Proc. U. S. Nat. Mus.* 1885, p. 242; *A. O. U. Check-list N. Amer. B.* p. 214, no. 401 (1886); *Ridgw. Man. N. Amer. B.* p. 287 (1887).

Apternus americanus, *Swains. Classif. B.* ii. p. 306 (1837).

Apternus hirsutus (*non Steph.*), *Bp. Comp. List B. Eur. & N. Amer.* p. 39, no. 259 (1838); *id. Consp. Gen. Av.* i. p. 139 (1850); *id. Consp. Volucr. Zygod.* p. 8, no. 84 (1854); *Reichenb. Scans. Picinæ*, p. 361, no. 834, pl. dcxxx. figs. 4192–93, ♂ ♀ ad. (1854).

Picus arcticus (*non Swains.*), *De Kay, Nat. Hist. N. York.* pt. 2, p. 190, pl. xvii. fig. 36, ♂ (1844).

Picoides hirsutus (*non Steph.*), *Gray, Gen. B.* ii. p. 434 (1845); *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 329; *Baird, B. N. Amer.* p. 98 (1858); *Blakist. Ibis*, 1863, p. 52; *Mayn. Bds. E. N. Amer.* p. 247 (1879).

Tridactylia undulata*, *Cab. & Heine, Mus. Hein.* iv. p. 28 (1863).

Picus americanus, *Sundev. Consp. Av. Picin.* p. 15 (1866).

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* The species so named by Stephens, together with *P. undatus* of Temminck and *P. undosus* of Cuvier, may possibly be referred to *Picoides americanus*, but having been founded upon Brisson's "*Pic varié de Cayenne*," which in itself appears to be a combination of two species (the male being evidently *P. americanus* and the female *P. arcticus*), I do not think these names can be accepted.

Picoides americanus, var. fasciatus, *Coop. B. Calif., ed. Baird*, i. p. 385, head figd. p. 386 (1870).
Picoides tridactylus, var. americanus, *B., B., & R. Hist. N. Amer. B.* ii. p. 532, pl. l. fig. 2, ♂ ad. (1874).
Picoides tridactylus americanus, *Ridgw. Proc. U. S. Nat. Mus.* 1880, p. 189.

Adult male. Differs from *P. arcticus* in having the back distinctly barred with white, the bars being narrower than the black interspaces; the central tail-feathers occasionally having marginal spots of white, the lateral ones barred with black at the base; the yellow on the crown of a pale lemon- or straw-yellow; the white stripe which borders the nape uniting on the hind neck with the corresponding stripe, the white only tipping the feathers; the top of the head spotted with white, and the white stripe which runs under the ear-coverts and down the side of the neck narrower. Total length 8 inches, culmen 1·12, wing 4·5, tail 3, tarsus 0·85; toes (without claws)—outer anterior 0·46, inner anterior 0·4, posterior 0·54.

Adult female. Differs from the adult male in wanting the yellow on the crown, the whole of the top of the head being blue-black, the forehead and crown more or less spotted with white. Total length 8 inches, culmen 1·05, wing 4·35, tail 2·95, tarsus 0·8.

Hab. Northern North America east of the Rocky Mountains, north to about 60° N. lat., south, in winter, to the Northern United States.

a, b. ♂ ♀ ad. sk.	Arctic America.	Sir J. Rae [P.].
c, d. ♂ ♀ ad. sk.	Labrador.	Salvin-Godman Coll.
e. ♂ ad. sk.	British Columbia.	J. K. Lord, Esq. [P.].
f–k. ♂ ad.; *l–o.* ♀ ad. et imm. sk.	Big Moose Lake, New York, Feb., April, May, July, Aug., Oct., Nov., Dec. (*Hart Merriam*).	Henshaw Coll. [S.-G.]
p. ♂ ad.; *q.* ♀ imm. sk.	Moose River, New York, June (*Hart Merriam*).	
r, s, t. ♀ ad. sk.	7th Lake, Hamilton Co., N. Y., May, June (*Hart Merriam*).	
u, v, w. ♂ ad.; *x, y, z.* ♀ ad. sk.	Herkina Co., N. Y., May, June, Oct. (*Hart Merriam*).	
a'. Skeleton.	N. America.	

Subsp. *a.* Picoides alascensis.

Picoides americanus (*non Brehm*), *Dall & Bann. Trans. Chic. Acad. Sc.* 1869, p. 274.

Brisson distinctly states that in the male the crown is *red*, and the habitat "Cayenne" is apparently an error. I have therefore omitted all these references in my synonymy. The Three-toed Woodpecker of Edwards, 'Gleanings,' iii. pl. cxiv. ♂ (1750), is probably *Picoides americanus*, but the crown is said to be *orange-red*.

Apternus hirsutus (*non Steph.*), *Finsch, Abh. Nat.* iii. p. 61 (1873).
Picus tridactylus (*non Linn.*), *Adams, Ibis*, 1878, p. 427.
Picoides tridactylus alascensis, *Nelson, Auk*, 1884, p. 165.
Picoides americanus alascensis, *A. O. U. Check-list N. Amer. B.* p. 214, no. 401 *a* (1886); *Ridgw. Man. N. Amer. B.* p. 287 (1887).

Adult male, winter plumage. Resembles *P. americanus* in having the back barred with white, but the black interspaces are interrupted in the middle of the back by a line of white, caused by the apical portion of the central feathers being uniform white; the white stripe above the ear-coverts, which borders the occiput and nape, and joins, on the hind neck, the corresponding stripe, is more defined: the yellow on the crown golden; the upper tail-coverts are barred with white, as are likewise the tips of the scapulars; the tips of the primaries are also white. Total length 8 inches, culmen 1·2, wing 4·6, tail 3, tarsus 0·82; toes (without claws)—outer anterior 0·4, inner anterior 0·35, posterior 0·5.

Adult female. Differs from the adult male in wanting the yellow crown, the whole of the top of the head being blue-black, the forehead spotted and the crown striped with greyish white. Total length 8 inches, culmen 1·05, wing 4·55, tail 3, tarsus 0·8.

Immature. Resemble the adult of their respective sexes, but differ in having the central tail-feathers spotted more or less transversely with white upon both webs. In the male the yellow on the top of the head does not advance so far forward, and in the female the forehead and crown are spotted, rather than striped, with greyish white.

In summer this species has much less white upon the wings, the upper tail-coverts are not barred, and the upper series have at most a few minute white spots; the lateral tail-feathers are more or less barred with black at the base; there is a smaller amount of white on the top of the head, and none, or merely a trace, on either the wing-coverts or scapulars; the barring on the sides of the body, flanks, and thighs is broader and blacker, and there is a less amount of white on the under wing-coverts and axillaries.

Hab. Alaska, north of the mountains, and eastward through Arctic British America to Hudson's Bay.

a. ♂ imm. sk.	N. Land Expedition.	Capt. Back [P.].
b. ♀ ad. sk.	Fort Halkett, Dec. (*J. Lockhart*).	Salvin-Godman Coll.
c. ♂ ad. sk.	Unalaklut, Alaska (*E. W. Nelson*).	Henshaw Coll. [S.-G.]
d, *e*. ♂ ad.; *f*. ♀ imm. sk.	Nulato, Alaska, March (*E. W. Nelson*).	
g, *h*. ♂ ad.: *i*–*l*. ♀ ad. sk.	Fort Reliance, Oct., Dec. (*E. W. Nelson*).	
m. ♂ imm. sk.	Shaktolik, Alaska, Dec. (*W. Nelson*).	
n. ♂ ad. sk.	Mackenzie River (*Kennicott*).	Sclater Coll.
o. ♂ ad. sk.	Great Bear Lake.	B. R. Ross, Esq. [P.].
p, *q*. ♂ ad.; *r*. ♀ ad. sk.	Fort Simpson.	B. R. Ross, Esq. [P.].

4. Picoides arcticus.

Apternus arcticus, *Swains. Faun. Bor.-Amer., Birds*, ii. pp. xxvi introd. & 313, pl. lvii. (1831); *id. Classif. B.* ii. p. 306 (1837); *Bp. Comp. List B. Eur. & N. Amer.* p. 39, no. 260 (1838); *id. Consp. Gen. Av.* i. p. 139 (1850); *id. Consp. Volucr. Zygod.* p. 8, no. 83 (1854); *Licht. Nomencl. Av.* p. 75 (1854); *Reichenb. Scans. Picinæ*, p. 361, no. 833, pl. dcxxx. figs. 4189–91, ♂ ♂ ♀ ad. (1854); *Newb. P. R. R. Rep.* vi. p. 91 (1857).

Picus tridactylus (*non Linn.*), *Jard. ed. Wils. Amer. Orn.* iii. p. 423, pl. xiv. fig. 2, ♂ (1832); *Aud. Orn. Biogr.* ii. p. 197 (1834), v. p. 538, pl. cxxxii. figs. 1, 2, ♂ ♀ (1839); *Nutt. Man. Orn.* i. p. 578 (1840).

Picus arcticus, *Gloy. Handb. Naturgesch. Vög. Eur.* p. 462 note (1834); *Aud. Syn. B. N. Amer.* p. 182 (1839); *id. B. Amer.* 8vo, p. 266, pl. cclxviii. figs. 1, 2 ♂, 3 ♀ (1839); *Putnam, Proc. Essex Inst.* 1856, p. 214; *Sundev. Consp. Av. Picin.* p. 15 (1866).

Picoides arcticus, *Gray, Gen. B.* ii. p. 434, pl. 108. fig. 7 (1845); *Baird, B. N. Amer.* p. 98 (1858); *Malh. Picidæ*, i. p. 174, pl. xxxix. figs. 5, 6, ♂ ad., ♀ (1861); *Boardm. Proc. Bost. Soc.* 1862, p. 123; *Verrill, Proc. Essex Inst.* 1862, p. 143; *Blakist. Ibis*, 1863, p. 51; *Allen, Proc. Essex Inst.* 1864, p. 52; *McIlwr. op. cit.* 1866, p. 83; *Coues, op. cit.* 1868, p. 262; *Gray, List Picid. Brit. Mus.* p. 31 (1868); *id. Hand-l. B.* ii. p. 181, no. 8539 (1870); *Coop. B. Calif. ed. Baird*, i. p. 384, head of ♂ figd. (1870); *Allen, Amer. Nat.* 1870, p. 572; *Merr. U. S. Geol. Surv. Terr.* 1872, p. 694; *Coues, Key N. Am. B.* 1872, p. 194; *Ridgw. Bull. Essex Inst.* 1874, pp. 13, 38; *Coues, B. N.-West*, p. 284 (1874); *B., B., & R. Hist. N. Amer. B.* ii. p. 530, pl. l. fig. 1, ♂ ad. (1874); *Ridgw. U. S. Geol. Expl. 40th Par.* pt. iii. *Birds*, p. 548 (1877); *Beld. Proc. U. S. Nat. Mus.* 1878, p. 429; *Merr. Bull. Nutt. Orn. Club*, 1879, p. 6; *Roberts, t. c.* p. 154; *Mearns, t. c.* p. 175; *Mayn. Bds. E. N. Amer.* p. 245 (1879); *Ridgw. Proc. U. S. Nat. Mus.* 1880, p. 189; *Merr. Bull. Nutt. Orn. Club*, 1882, p. 236; *Coues, Check-list N. Amer. B.* 2nd ed. p. 78 (1882); *Stearns, Proc. U. S. Nat. Mus.* 1883, p. 118; *Coues, Key N. Amer. B.* 2nd ed. 1884, p. 485; *Turner, Proc. U. S. Nat. Mus.* 1885, p. 242; *A. O. U. Check-list N. Amer. B.* p. 213, no. 400 (1886); *Ridgw. Man. N. Amer. B.* p. 287 (1887); *Merrill, Auk*, 1888, p. 254.

Tridactylia arctica, *Cab. & Heine, Mus. Hein.* iv. p. 27 (1863).

Adult male. Back, rump and upper tail-coverts, scapulars and wing-coverts blue-black, the lower rump-feathers occasionally tipped with white; quills black, spotted with white upon both webs, except upon the outer webs of the inner secondaries; shafts black; tail black, the four central feathers uniform, the next having the apical third buffy white, the two outer large feathers on either side having the apical half, or more, buffy white, and the basal half of the inner web irregularly barred with white, the dwarf feather white barred with black on the inner web; shafts of the same colour as the surrounding web; nasal plumes black; crown golden yellow, the remainder of the head, side of the neck, and hind neck blue-black, with the base of the forehead and a stripe thence running under the eye and ear-coverts and down the side of the neck white, and a very narrow white stripe running backwards

from the eye; the black on the malar region spotted with white; from the chin to the under tail-coverts (both inclusive) white, more or less pure, the black malar stripe extending on to the side of the chest; the entire sides of the body, flanks, and thighs barred with black; under wing-coverts and axillaries barred black and white: "iris brown; bill and feet black" (*Cooper*). Total length 9 inches, culmen 1·5, wing 5·05, tail 3·35, tarsus 0·95; toes (without claws) —outer anterior 0·45, inner anterior 0·3, posterior 0·5.

Adult female. Differs from the adult male in wanting the yellow on the crown, the whole of the top of the head being blue-black. Total length 9 inches, culmen 1·4, wing 4·95, tail 3·35, tarsus 0·9.

Hab. Northern North America from about 57° N. lat. south to the northern border of the United States, and, in the Western part of the latter, extending along the mountain-ranges to the Sierra Nevada, California, about 39° lat.

a. ♂ ad. sk.	Canada.	Salvin-Godman Coll.
b. ♀ ad. sk.	Canada (*C. Shelley*).	Tweeddale Coll.
c. ♀ ad. sk.	Fort Simpson, Sept.	B. R. Ross, Esq. [P.].
d, *e*. ♂ ad.; *f*. ♀ ad. sk.	British Columbia.	J. K. Lord, Esq. [P.].
g. ♂ ad. sk.	St. Lawrence River, Canada, Nov. (*A. Lechevallier*).	Henshaw Coll.
h. ♂ ad. sk.	Lake of the Woods, May (*R. Kennicott*).	Salvin-Godman Coll.
i, *k*. ♂ ad.; *l*, *m*. ♀ ad. sk.	Big Moose Lake, New York, June, Aug. (*Hart Merriam*).	Henshaw Coll. [S.-G.]
n. ♂ ad.; *o*, *p*. ♀ ad. sk.	7th Lake, Hamilton Co., N.Y., June (*Hart Merriam*).	
q. ♀ ad. sk.	Menomonee, Wisconsin, Oct. (*Nelson*).	
r. ♂ ad. sk.	Fort Klamath, Oregon, April (*Capt. Bendire*).	
s. ♀ imm. sk.	Honey Lake, Nevada, June (*H. Wheeler*).	

5. Picoides funebris.

Picoides funebris, *Verreaux*, *N. Arch. Mus.* vi. *Bull.* 33. no. 2 (1870); *id. op. cit.* vii. p. 27 (1871); *id. op. cit.* viii. pl. i. (1872); *Elwes*, *P. Z. S.* 1873, pp. 664, 665, 689; *Sclat. Ibis*, 1874, p. 171; *David & Oust. Ois. Chine*, p. 49 (1877).

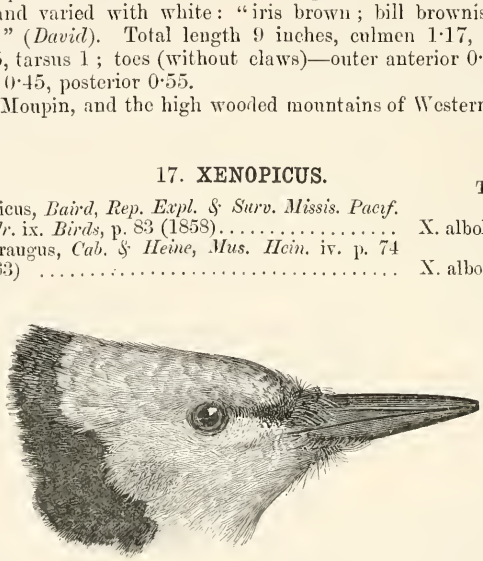
Male, young. Above, including scapulars, rump, and upper tail-coverts brownish black, with a narrow and broken line of white down the middle of the back; wing-coverts uniform brownish black; quills brownish black, the primaries and some of the outer secondaries spotted with white upon both webs, the former tipped with white; the inner secondaries having the outer webs uniform, the inner webs spotted with white, and having near the tips of the innermost a diagonal stripe of white upon each web; shafts blackish

brown; tail black, the six central feathers uniform, the remainder barred with white upon both webs, the dwarf feather spotted or barred on the outer web only; shafts black; nasal plumes black, with buffy-white bases; forehead, crown, occiput, and nape glossy blue-black, the feathers of the forehead banded with white at the tip, those of the crown being tipped with bright saffron-yellow and having grey bases; lores, a stripe from behind the eye passing down the side of the neck, also one from the base of the upper mandible and running under the ear-coverts and down the side of the neck, buffy white; ear-coverts and a broad stripe behind blue-black; a broad blue-black malar stripe; chin, throat, and fore neck buffy white; from the chest to the under tail-coverts inclusive, partly black, partly brown, more or less spotted with white, the brown portions being nearly uniform, the black more clearly spotted with white; under wing-coverts brownish black, barred and varied with white: "iris brown; bill brownish; legs blackish" (*David*). Total length 9 inches, culmen 1·17, wing 5, tail 3·15, tarsus 1; toes (without claws)—outer anterior 0·5, inner anterior 0·45, posterior 0·55.

Hab. Moupin, and the high wooded mountains of Western China.

17. XENOPICUS.

	Type.
Xenopicus, *Baird, Rep. Expl. & Surv. Missis. Pacif. Railr.* ix. *Birds*, p. 83 (1858)	X. albolarvatus.
Xenocraugus, *Cab. & Heine, Mus. Hein.* iv. p. 74 (1863)	X. albolarvatus.



Head of *Xenopicus albolarvatus*.

Range. Pacific coast-region from British Columbia to Southern California, including both slopes of the Sierra Nevada.

1. Xenopicus albolarvatus.

Leuconerpes albolarvatus, *Cassin, Proc. Acad. Philad.* 1850, p. 106; *Bp. Consp. Volucr. Zygod.* p. 10, no. 204 (1854).

Melanerpes albolarvatus, *Cass. Journ. Acad. Philad.* 1853, p. 257, pl. xxii., ♂ ♀ ad.; *Newberry, Zool. Cal. & Oreg. Route* 9, *Rep. P.*

R. R. vi. pt. iv. p. 91 (1857); *Bridges, P. Z. S.* 1858, p. 3; *Gray, List Picid. Brit. Mus.* p. 117 (1868); *id. Hand-l. B.* ii. p. 201, no. 8821 (1870).

Picus (Xenopicus) albolarvatus, *Baird, B. N. Amer.* p. 96 (1858); *Cass. Proc. Acad. Philad.* 1863, p. 202; *B., B., & R. Hist. N. Amer. B.* ii. p. 526, pl. l. fig. 7 ♂, fig. 8 ♀ ad. (1874).

Xenopicus albolarvatus, *Malh. Picidæ*, ii. p. 221, pl. ci. figs. 3, 4, ♂ ♀ (1862); *Elliot, New & Unfig. B. N. Amer.* i. pl. xxiv., ♂ ♀ ad. (1869); *Ridgw. Proc. U. S. Nat. Mus.* 1880, pp. 6, 189; *Coues, Check-list N. Amer. B.* 2nd ed. 1882, p. 78; *id. Key N. Amer. B.* 2nd ed. 1884, p. 484; *A. O. U. Check-list N. Amer. B.* 1886, p. 213; *Coop. Auk*, 1887, p. 88; *Ridgw. Man. N. Amer. B.* p. 286 (1887); *Merrill, Auk*, 1888, p. 253.

Xenocraugus albolarvatus, *Cab. & Heine, Mus. Hein.* iv. p. 74 (1863).

Picus albolarvatus, *Sunder. Consp. Av. Picin.* p. 29 (1866); *Coop. B. Calif. ed. Baird*, i. p. 382 (1870); *Ridgw. Proc. Essex Inst.* 1875, p. 38; *Ridgw. U. S. Geol. Expl. 40th Par.* pt. iii. *Orn.* pp. 388, 547 (1877); *Beld. Proc. U. S. Nat. Mus.* 1878, pp. 393, 428.

Adult male. Forehead and crown smoky white; a bright scarlet occipital band; nasal plumes, lores, side of the face, chin, and throat pure white; the remainder of the plumage blue-black (except the wings, these being slightly browner); dwarf primary having a white spot at the base of the inner web, the next feather having the base of the inner web white, with a small spot at the base of the outer web; the remaining primaries having their basal portion white on both webs, that on the outer not extending to within an inch of the tips: "iris brown" (*A. Forrer*). Total length 8·5 inches, culmen 1·25, wing 5·15, tail 3·45, tarsus 0·9; toes (without claws)—outer anterior 0·55, outer posterior 0·65, inner anterior 0·48, inner posterior 0·3.

Adult female. Differs from the adult male in the absence of the red occipital band, the occiput being, like the hind neck, black: "iris brown" (*A. Forrer*). Total length 8·5 inches, culmen 1·05, wing 5·2, tail 3·6, tarsus 0·87.

Young. General colour of a more dusky black: the male has the crown-feathers tipped with red, and no red on the occiput. A young female examined resembles the adult of the same sex, but has the forehead and crown smoky white; there is more white on the outer webs of the primaries, and they are barred with black on the apical portion; sometimes the white upon the inner webs is also barred, the white appearing as a spot. I am not aware that the female has an earlier stage of plumage.

Hab. Pacific coast-region from British Columbia to Southern California, including both slopes of the Sierra Nevada.

a. ♂ ad.; *b, c.* ♀ ad. sk.	British Columbia.	J. K. Lord, Esq. [P.].
d, e. ♂ ♀ ad. sk.	Fort Klamath, Oregon, Dec. & Jan. (*C. Bendire*).	Henshaw Coll.
f. ♂ ad. sk.	Nevada, California, Sept. (*H. W. Henshaw*) [Sm. no. 72618].	Salvin-Godman Coll.

g. ♀ imm. sk.	Nevada, California, Oct. (*Nelson*).	Henshaw Coll.
h. ♂ ad. sk.	Lake Tahoe, Nevada, Cal. (*Henshaw*).	Henshaw Coll.
i. ♀ imm. sk.	Fort Crook, Cal., Nov. (*D. F. Parkinson*) [Sm. no. 22073].	Salvin-Godman Coll.
k. ♀ ad. sk.	Fort Crook (*D. F. Parkinson*).	Sclater Coll.
l. ♀ juv. sk.	Big Trees, Cal., July (*L. Belding*).	Henshaw Coll. [S.-G.]
m, *n*. ♂ ♀ ad.	Blue Cañon, Cal., June, Oct. (*Henshaw*).	
o, *p*. ♂ ad. sk.	Walker's Basin, Cal., Nov. (*Wheeler*).	
q, *r*. ♂ ♀ ad.	Bear Valley, Cal., June (*F. Stephens*).	G. Frean Morcom, Esq. [P.].

18. DENDROCOPTES.

Type.

Dendrocoptes, *Cab. & Heine, Mus. Hein.* iv. p. 41 (1863). D. medius.

Range. Europe (generally), north to Finland; Asia Minor and east into Persia.

Key to the Species.

A. The white bars on the lateral tail-feathers broader than the black interspaces; the red occipital feathers less elongated; the breast less yellow, and the striations on the sides of the body, flanks, and thighs narrower.

a'. The red on the occiput as bright as that of the crown ..... *medius* ♂ ad., [p. 287.

b'. The red on the occiput duller than that of the crown ..... *medius* ♀ ad., [p. 288.

B. The white bars on the lateral tail-feathers narrow, and less in width than the black interspaces; the red occipital feathers more elongated; the breast deeply washed with yellow; the striations on the sides of the body, flanks, and thighs broader.

c'. The red on the occiput as bright as that of the crown ..... *sancti-johannis* [♂ ad., p. 288.

d'. The red on the occiput duller than that of the crown ..... *sancti-johannis* [♀ ad., p. 288.

1. Dendrocoptes medius.

Le Pic varié, *Briss. Orn.* iv. p. 38, pl. ii. fig. 1 (1760).

Picus medius, *Linn. Syst. Nat.* i. p. 176 (1766); *Scop. Ann.* i. p. 48 (1769); *Gm. Syst. Nat.* i. p. 436 (1788); *Lath. Ind. Orn.* i. p. 229 (1790); *Lewin, B. Gt. Brit.* ii. p. 40, pl. xlix. (1796); *Bechst. Naturg. Deutschl.* ii. p. 1029 (1805); *Temm. Cat. Syst.* p. 65

(1807); *Meyer & Wolf, Taschenb.* i. p. 122 (1810); *Meisn. & Schinz, Vög. Schweiz*, p. 41 (1815); *Nilss. Orn. Suec.* i. p. 110 (1817); *Temm. Man. d'Orn.* i. p. 398 (1820); *Brehm, Naturgesch. Eur. Vög.* i. p. 140 (1823); *Bonn. & Vieill. Enc. Méth.* iii. p. 1303 (1823); *Roux, Orn. Prov.* i. p. 98, pl. lxi. (1825); *Naum. Vög. Deutschl.* v. p. 320, pl. cxxxvi. figs. 1, 2 (1826); *Valenc. Dict. Sc. Nat.* xl. p. 180 (1826); *Risso, Eur. Mérid.* iii. p. 60 (1826); *Wagl. Syst. Av.* Picus, sp. 24 (1827); *Savi, Orn. Tosc.* i. p. 143 (1827); *Less. Man. d'Orn.* ii. p. 112 (1828); *Wagl. Isis*, 1829, p. 510; *Brehm, Vög. Deutschl.* 1831, p. 191; *Less. Traité*, i. p. 218 (1831); *Glog. Handb. Naturgesch. Vög. Eur.* p. 459 (1834); *Bp. Comp. List B. Eur. & N. Amer.* p. 39 (1838); *Keys. & Blas. Wirb. Eur.* pp. 148 & xxxv (1840); *Schinz, Eur. Faun.* i. p. 262 (1840); *Schleg. Rev. Crit.* p. 1 (1844); *Gray, Gen. B.* ii. p. 435 (1845); *Bp. Consp. Gen. Av.* i. p. 134 (1850); *Reichenb. Scans. Picinæ*, p. 368, no. 848, pl. dcxxxiv. fig. 422 (1854); *Licht. Nomencl. Av.* p. 75 (1854); *Brehm, Vogelf.* p. 70 (1855); *Sunder. Sv. Fogl.* p. 140, pl. xxiii. fig. 3 (1856); *Von Wright, Finl. Fogl.* 1859, p. 274; *Jaub. & Barth.-Lapomm. Rich. Orn.* p. 330 (1859); *Malh. Picidæ*, i. p. 93, pl. xx. figs. 6, 7 (1861); *Bree, B. Eur.* iii. p. 146, pl. ♂ (1862); *Sperl. Ibis*, 1864, p. 218; *Prév. & Lem. Hist. Nat. Ois. d'Eur.* p. 169 (1864); *Sundev. Consp. Av. Picin.* p. 30 (1866); *Degl. & Gerbe, Orn. Eur.* i. p. 152 (1867); *Gray, List Picid. Brit. Mus.* p. 35 (1868); *Smith, Ibis*, 1868, p. 448; *Borggr. Vogelf. Norddeutschl.* p. 68 (1869); *Gray, Hand-l. B.* ii. p. 182, no. 8555 (1870); *Elw. & Buckl. Ibis*, 1870, p. 188; *Saund. op. cit.* 1871, p. 66; *Salvad. Faun. Ital., Uce.* p. 37 (1871); *Dress. B. Eur.* v. p. 47, pl. cclxxxi. (1871); *Perini, Man. Orn. Veron.* p. 404 (1874); *Danf. & Harv.-Br. Ibis*, 1875, p. 299; *D'Hamonv. Cat. Ois. d'Eur.* p. 10 (1876); *Saund. Bull. Soc. Zool. Fr.* 1876, p. 324; *Tacz. Bull. Soc. Zool. Fr.* 1877, p. 152; *Schleg. Vog. Nederl.* p. 40, pl. v. fig. 11 (1878); *Elw. Ibis*, 1880, p. 395; *Gigl. op. cit.* 1881, p. 190; *Madar. Syst. Aufz. Vög. Ungarns*, p. 23 (1881); *Carls. Kongl. Vet.-Akad. Förhandl.* 1882, no. 1, p. 30; *Marsch. & Pelz. Orn. Vindob.* p. 92 (1882); *Radde, Orn. Cauc.* p. 313, pl. xix. fig. 4 (1884); *Gigl. Avif. Ital.* p. 203 (1886); *Lorenz, Orn. Faun. Kaukasus*, p. 44 (1887).

Dendrocopos medius, *Koch, Syst. baier. Zool.* i. p. 73 (1816).

Picus varius (*non Linn.*), *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 94 (1818).

Dryobates medius, *Boie, Isis*, 1828, p. 326.

Picus cyanædus, *Pall. Zoogr. Rosso-Asiat.* i. p. 413 (1831).

Picus quercuum, *Brehm, Vög. Deutschl.* p. 191 (1831); *id. Vollst. Vögelf.* 1855, p. 70.

Pipripicus medius, *Bp. Consp. Volucr. Zygod.* p. 8, no. 52 (1854).

Picus roseiventris, } *Brehm, Vollst. Vögelf.* 1855, p. 70.
Picus meridionalis, }

Dendrocoptes medius, *Cab. & Heine, Mus. Hein.* iv. p. 41 (1863).

Dendrocopus medius, *Irby, Ibis*, 1883, p. 178; *B. O. U. List Brit. B.* p. 78 (1883); *Tait, Ibis*, 1887, p. 304.

Adult male. Back, rump, and upper tail-coverts black; scapulars white; wing-coverts black, except the innermost of the mediau and of the greater series, which are white, this forming a conspicuous patch; quills black, spotted with white upon both webs; shafts black; tail black, the two outer large feathers on either side broadly barred

with white on the apical portion, the next inner feather tipped and spotted near the tip with white; shafts black; nasal plumes dusky black; forehead smoky or brownish white; crown and occiput crimson; nape and hind neck black; sides of the face and neck, chin, throat, fore neck, and chest white, the malar region smoky or brownish, and behind this a very broad black stripe extending on to the side of the chest, a branch from it running behind the ear-coverts but not joining the nape; the breast slightly yellow; the abdomen, vent, and under tail-coverts rose-red; the sides of the body, flanks, and thighs narrowly striped with black, the latter parts slightly pink; under wing-coverts and axillaries white. Total length 8·3 inches, culmen 1·1, wing 4·83, tail 3·2, tarsus 0·8; toes (without claws)—outer anterior 0·55, outer posterior 0·58, inner anterior 0·5, inner posterior 0·25.

Young male. Resembles the adult, but has the red on the head, abdomen, and under tail-coverts much paler, and the striations on the underparts less black; the primaries are tipped with white.

Adult female. Has the red on the crown less brilliant than in the adult male, the red on the occiput more dusky and with a slight yellowish tinge. Total length 8·3 inches, culmen 1, wing 4·9, tail 3·32, tarsus 0·83.

Hab. Western and Southern Europe, north to Finland, east to the Caucasus.

a. ♂ ad. st.	Europe.	Old Collection.
b, c. ♂ ♀ ad. sk.	Sweden, Jan., Oct.	C. Meves [C.].
d. ♂ ad. sk.	Skåne, Sweden, Aug. 17, 1873.	C. Meves [C.].
e. Juv. sk.	Turkey (*T. Robson*).	Tweeddale Coll.

Subsp. α. Dendrocoptes sancti-johannis.

Picus sancti-johannis, *Blanf. Ibis*, 1873, p. 226; *id. East. Pers.* ii. p. 138, pl. ix. (1876).
Picus medius (*non Linn.*), *Danford, Ibis*, 1877, p. 264, 1878, p. 7; *Tristr. op. cit.* 1882, p. 418; *id. Cat. Coll.* p. 101 (1889).
Picus medius, var. sancti-johannis, *Radde, Orn. Cauc.* p. 313, pl. xix. fig. 3 (1884).

Adult male. Resembles *D. medius*, but differs in being smaller, and in having the underparts of a richer yellow and a deeper red, also in the striations on the sides of the body, flanks, and thighs being conspicuously broader and blacker, the black upon the latter parts taking the form of transverse spots or bars. There is very much more black on the lateral tail-feathers, these appearing as though black barred with white, the white bars being narrower than the black interspaces, the reverse being the case in *D. medius*. Total length 8 inches, culmen 1·05, wing 4·7, tail 3, tarsus 0·82; toes (without claws)—outer anterior 0·5, outer posterior 0·6, inner anterior 0·43, inner posterior 0·3.

Adult female. Differs from the adult of the opposite sex in having the crown of a less brilliant crimson, and this colour upon the

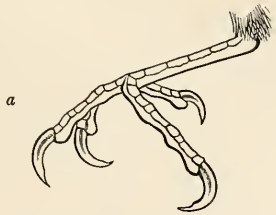
occiput having a washed-out appearance. Total length 8 inches, culmen 1, wing 4·75, tail 3, tarsus 0·83.

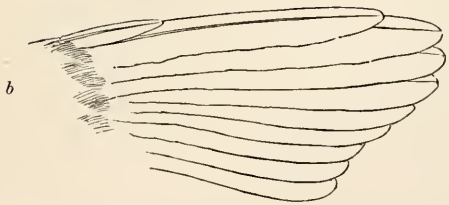
Hab. Asia Minor, east into Persia.

a.	♂ ad. sk.	Xanthus.	C. Fellowes, Esq. [P.].
b.	♂ ad. sk.	Belgrade (*T. Robson*).	Gould Coll.
c.	♂ ad. sk.	Asia Minor, March 6, 1866 (*T. Robson*).	Tweeddale Coll.
d.	♂ ad. sk.	Asia Minor, Oct. (*T. Robson*).	Shelley Coll.
e.	♂ ad. sk.	Asia Minor, Jan. 18, 1866 (*T. Robson*).	Salvin-Godman Coll.
f.	♂ ad. sk.	Petin-a-hore, Jan. 8, 1867 (*T. Robson*).	Tweeddale Coll.
g.	♂ imm. ; *h.* ♀ ad. sk.	Taurus, Asia Minor, Feb. 1876 (*C. G. Danford*).	Salvin-Godman Coll.
i.	♂ ad. sk.	Oak Forest, near Shiraz, June, 1870.	Sir O. St. John [C.].

19. LIOPICUS.

	Type.
Leiopicus, *Bp. Consp. Volucr. Zygod.* no. 65 (1854)..	L. mahrattensis.
Liopipo, *Cab. & Heine, Mus. Hein.* iv. p. 44 (1863)..	L. mahrattensis.





a. Foot of *Liopicus mahrattensis.*
b. Wing of *Liopicus mahrattensis* (reduced).

Range. India and Ceylon, Pegu, and into Cochin China. Will probably be found in the intervening countries, but specimens are wanting.

1. Liopicus mahrattensis.

Picus mahrattensis, *Lath. Ind. Orn.* ii. *Suppl.* p. xxxi, ♀ (1801); *Steph. Gen. Zool.* ix. p. 177, ♀ (1815); *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 94 (1818); *id. & Bonn. Enc. Méth.* iii. p. 1319 (1823); *Drap. Dict. Class.* xiii. p. 507, ♀ (1828); *Franklin, P. Z. S.* 1831, p. 121; *Sykes, op. cit.* 1832, p. 97; *Gray, Hardw. Ill. Ind. Zool.* i. pl. xxxiii., ♂ ♀ ad. (1830–32); *Gould, Cent. B. Himal. Mts.* pl. li., ♂ ♀ (1832); *id. P. Z. S.* 1842, p. 92; *Gray, Gen. B.* ii. p. 435 (1845); *Blyth, J. A. S. B.* 1845, p. 196; *id. Cat. B. Mus. As. Soc.* p. 62 (1849); *Bp. Consp. Gen. Av.* i. p. 135 (1850); *Layard, Ann. & Mag. Nat. Hist.* xiii. p. 448 (1854); *Licht. Nomenel. Av.* p. 75 (1854); *Reichenb. Scans. Picinæ*, p. 369, no. 853, pl. dcxxxv. (figs. 4230–31 ♂ ♀, incorrect) (1854); *Leith-Adams, P. Z. S.* 1858, p. 475; *Malh. Picidæ*, i. p. 105, pl. xxviii. figs. 1–2, ♂ ♀ (1861); *Jerd. B. Ind.* i. p. 274 (1862); *Beavan, Ibis*, 1865, p. 410; *Blyth, op. cit.* 1866, p. 354; *Sundev. Consp. Av. Picin.* p. 31 (1866); *Gray, List Picid. Brit. Mus.* p. 39 (1868); *id. Hand-l. B.* ii. p. 183, no. 8570 (1870); *Holdsw. P. Z. S.* 1872, p. 426; *Elwes, op. cit.* 1873, p. 672; *Hayes-Lloyd, Ibis*, 1873, p. 407; *Adam, Str. F.* 1873, p. 373; *Ball, op. cit.* 1874, p. 390; *Hume & Oates, op. cit.* 1875, p. 58; *Butl. t. c.* p. 458; *Legge, Ibis*, 1875, p. 274; *Wald. Ibis*, 1876, p. 344; *Fairb. Str. F.* 1876, p. 255; *Blanf. op. cit.* 1877, p. 245; *Hume, t. c.* p. 329; *Fairb. t. c.* p. 395; *Hume & Davison, op. cit.* vi. p. 124 (1878); *Hume, op. cit.* vii. p. 55 (1878); *Davids. & Wend. t. c.* p. 78; *Murray, t. c.* p. 111; *Butl. t. c.* p. 181; *Ball, t. c.* p. 205; *Scr. Doig, op. cit.* 1879, p. 370; *Butl. Cat. B. Sind &c.* p. 18, no. 160 (1879); *id. Cat. B. S. Bomb. Presid.* p. 22, no. 160 (1880); *Legge, B. Ceyl.* i. p. 184 (1880); *Vidal, Str. F.* 1880, p. 52; *Butl. t. c.* p. 385; *Reid, op. cit.* x. p. 24 (1881); *Oates, t. c.* p. 190 (1882); *Davidson, t. c.* p. 297 (1882); *W. Davison, Str. F.* x. p. 354 (1883); *Oates, B. Brit. Burm.* ii. p. 37 (1883); *Marshall, Ibis*, 1884, p. 410; *Swinh. & Barnes, op. cit.* 1885, p. 62; *Parker, op. cit.* 1886, p. 183.

Picus hæmasoma, *Wagl. Syst. Av.* Picus, sp. 30, ♀ (1827).

Picus aurocristatus, *Tick. J. A. S. B.* 1833, p. 579.

Dendrocopus marattensis, *Swains. Classif. B.* ii. p. 307 (1837).

Leiopicus mahrattensis, *Bp. Consp. Volucr. Zygod.* p. 8, no. 65 (1854); *Gray, Cat. Gen. B.* 1855, p. 91; *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 674 (1856–58); *Gray, Cat. Mamm. &c. Nepal pres. Hodgs.* 1863, p. 63.

Liopipo mahrattensis, *Cab. & Heine, Mus. Hein.* iv. p. 44 (1863); *Blyth & Wald. B. Burm.* p. 78 (1875).

Picus blanfordi, *Blyth, J. A. S. B.* 1863, p. 75; *Gray, List Picid. Brit. Mus.* p. 39 (1868); *id. Hand-l. B.* ii. p. 183, no. 8571 (1870); *Blanf. Ibis*, 1870, p. 464.

Picus (Leiopicus) mahrattensis, var., *Stoliczka, J. A. S. B.* 1872, p. 232.

Adult male. Back and scapulars white, very broadly striped and transversely varied with black; rump and upper tail-coverts white, the latter broadly striped with black; wings and their coverts black, the median and the greater series of the latter and both webs of the quills spotted with white; shafts dark brown; tail black, the central feathers entirely spotted, the lateral ones entirely barred with white; shafts black; nasal plumes, forehead, and crown pale golden yellow;

occiput and nape scarlet; hind neck black; sides of the face and neck white, the ear-coverts slightly brownish; the malar region smoky white, and behind it a broad brown stripe running on to the side of the chest, a branch from it extending behind the ear-coverts; from the chin to the under tail-coverts (both inclusive) white, the chin, throat, and fore neck uniform, the remaining parts broadly striped with brown, except the abdomen which is brilliant scarlet: "bill clear plumbeous, dark on the culmen and tip of both mandibles; inside of mouth bluish fleshy; eyelids dark brown; irides deep red; legs and feet bright plumbeous; claws horny blue" (*E. W. Oates*). Total length 6·8 inches, culmen 1·15, wing 4, tail 2·3, tarsus 0·8; toes (without claws)—outer anterior 0·5, outer posterior 0·57, inner anterior 0·42, inner posterior 0·28.

Adult female. Wants the red on the occiput and nape, these being dull yellow, like the forehead and crown. Total length 6·8 inches, culmen 0·93, wing 4, tail 2·5, tarsus 0·75.

Young. The males differ from the adult of the same sex in having the sinciput of a very much duller yellow, and the red on the head also duller and confined to the hinder part of the crown; the underparts less white and more broadly striped; the red on the abdomen less intense; the bill brown. The male nestling is similar, but (together with the female) differs in having the chin and throat faintly spotted with dusky brown; the female has no red on the head, the forehead and crown being smoky or brownish drab, with scarcely any yellow tinge.

Hab. Throughout almost the whole of India to the foot of the Himalayas, extending in the north-west up to Chamba; Ceylon; ranging also into the northern part of Pegu. Has also been obtained by Dr. Harmand in Cochin China, and will probably be found to inhabit the intervening countries.

a. ♀ ad. sk.	Umarkoti, Sindh, Jan. 20, 1876 (*W. T. Blanford*).	Hume Coll.
b, *c*. ♂ ♀ ad. sk.	Kutch.	Hume Coll.
d. ♂ ad. sk.	Kattiawar.	Major Hayes Lloyd [P.].
e. ♂ ad. sk.	Deesa, Feb. 18, 1876 (*E. A. Butler*).	Hume Coll.
f–*i*. ♀ ad. et imm. sk.	Mt. Aboo, Rajputana.	Hume Coll.
k, *l*. ♂ ♀ ad. sk.	Mt. Aboo.	Major Butler [C.].
m, *n*, *o*. ♂ ad.; *p*, *q*, *r*. ♀ ad. sk.	Sambhur, Feb., March, June, Oct., Nov. (*R. M. Adam*).	Hume Coll.
s, *t*. ♂ ad.; *u*, *v*. ♀ ad. sk.	Jodhpur, Jan. and Oct.	Hume Coll.
w, *x*. ♂ ♀ ad. sk.	Tatghur, Oodeypur, Feb. 1878.	Hume Coll.
y. ♂ ad.; *z*, *a'*. ♀ ad. sk.	Delhi, March, Oct., Nov. (*C. T. Bingham*).	Hume Coll.
b'. ♂ ad.; *c'*, *d'*, *e'*. ♀ ad. sk.	Sultanpur, Gurgaon Dist., Dec., Jan., Feb. (*W. N. Chill*).	Hume Coll.
f', *g'*. ♂ ad.; *h'*. ♀ ad. sk.	Umbala, March, July, Sept.	Hume Coll.
i', *k'*. ♀ ad. sk.	Umbala (*Pinwill*).	Tweeddale Coll.

l'. ♂ ad.; *m'*, *n'*. ♀ ad. sk.	Umbala, Nov. (*R. C. Beavan*).	Tweeddale Coll.
o'. ♂ ad. sk.	Saharunpur, Dec. 2, 1872.	Hume Coll.
p', *q'*. ♂ ad.; *r'*, *s'*, *t'*. ♀ ad. sk.	Simla.	Hume Coll.
u'. ♂ ad. sk.	Dehra Dhoon.	Gould Coll.
v', *w'*. ♂ ♀ ad. sk.	N.W. India.	Pinwill Coll.
x', *y'*. ♂ ad. sk.	Etawah, Feb. and March.	Hume Coll.
z'. ♂ ad. sk.	Muttra, Jan. 14, 1868 (*R. M. Adam*).	Hume Coll.
a'', *b''*. ♂ ♀ ad. sk.	Futtehgurh, Sept. (*A. Anderson*).	Hume Coll.
c'', *d''*. ♂ ad.; *e''*. ♀ ad. sk.	Oudh, Jan., Feb., Nov.	Hume Coll.
f'', *g''*. ♀ ad. sk.	Gondah, Oudh (*Pinwill*).	Tweeddale Coll.
h''. ♀ ad. sk.	Mogul Serai, Oudh, Sept. 15, 1874 (*W. E. Brooks*).	Hume Coll.
i''. ♂ ad. sk.	Lucknow, Oudh, May 10, 1879.	Colonel Way [P.].
k''. ♀ ad. sk.	Nepal.	Hodgson Coll.
l''. ♂ ad. sk.	Darjeeling (*Pearson*).	India Museum.
m''. ♂ ad. sk.	Bhotan Doars, Jan. 1877 (*L. Mandelli*).	Hume Coll.
n''. ♀ ad. sk.	Behar.	Hodgson Coll.
o''. ♂ ad. st.	Behar.	Hodgson Coll.
p'', *q''*. ♂ ♀ ad. sk.	Saugor (*Hooper*).	India Museum.
r''. ♂ ad. sk.	Mhow, Dec. 19, 1881.	Colonel Swinhoe [P.].
s'', *t''*. ♂ ♀ ad. sk.	Khandeish.	India Museum.
u'', *v''*. ♂ ad. et juv.; *w''–z''*. ♀ ad. et juv. sk.	Khandeish, Feb., March, May (*J. Davidson*).	Hume Coll.
*a*³, *b*³. ♂ ad.; *c*³. ♀ imm. sk.	Khandeish.	Tweeddale Coll.
*d*³. ♂ ad. sk.	Raipur.	Hume Coll.
*e*³. ♀ ad. sk.	Chanda, Feb. 1870 (*W. T. Blanford*).	Hume Coll.
*f*³, *g*³. ♂ ♀ ad. sk.	Matterhan, Nov. 1875.	Hume Coll.
*h*³, *i*³. ♂ ♀ ad. sk.	Mahabaleshwar, May 1874 (*S. B. Fairbank*).	Hume Coll.
*k*³, *l*³. ♂ ad.; *m*³. ♀ ad. sk.	Ahmednuggur, Feb. and Sept. (*S. B. Fairbank*).	Tweeddale Coll.
*n*³. ♂ ad. sk.	Khandala, May 1876 (*S. B. Fairbank*).	Tweeddale Coll.
*o*³, *p*³. ♂ ♀ ad.; *q*³. Juv. sk.	Deccan (*Sykes*).	India Museum.
*r*³. ♀ ad. sk.	Deccan (*Lieut. Burgess*).	Gould Coll.
*s*³, *t*³, *u*³. ♂ ad.; *v*³. ♀ imm. sk.	S. Konkan, March and April (*G. Vidal*).	Hume Coll.
*w*³, *x*³, *y*³. ♂ ad.; *z*³. ♀ imm. sk.	Wynaad, March, Nov., and Dec.	Hume Coll.
*a*⁴. ♂ ad. sk.	Kotagherry, Nilghiris, Dec. 1874 (*Miss Cockburn*).	Hume Coll.
*b*⁴. ♂ ad. sk.	Seegore, Nilghiris, Feb. 1881 (*W. Davison*).	Hume Coll.
*c*⁴. ♀ ad. sk.	Mudda, Mysore, May 1881 (*W. Davison*).	Hume Coll
*d*⁴, *e*⁴. ♂ ad.; *f*⁴, *g*⁴. ♀ ad. sk.	Malabar.	Tweeddale Coll.

h^4, i^4. ♂ ♀ ad. sk.	Calicut.	Hume Coll.
k^4, l^4, m^4. ♂ ad.; n^4. ♀ ad. sk.	Anjango, Travancore, Dec. 1872.	Hume Coll.
o^4. Ad. sk.	Ceylon.	Hume Coll.
p^4, q^4. Ad. sk.	Ceylon.	Tweeddale Coll.
r^4. ♂ ad. sk.	Ceylon, Sept. 16, 1875.	Colonel Legge[P.].
s^4, t^4. ♂ ♀ ad. sk.	Aripo, N.W. Ceylon, Nov. and Dec. 1869 (*E. M. Holdsworth*).	Tweeddale Coll.
u^4, v^4. ♂ ad.; w^4. Juv. sk.	Madras.	Rev. H. H. Baber [P.].
x^4. Juv. sk.	Rajamundry, April 4, 1871.	W. T. Blanford, Esq. [P.].
y^4, z^4. ♂ ♀ ad.; a^5, b^5. Juv. sk.	Maunbhoom, March 1865 (*R. C. Beavan*).	Tweeddale Coll.
c^5. ♂ ad.; d^5, e^5. ♀ ad. sk.	Thayetmyo, Upper Burmah.	Hume Coll.
f^5. ♂ ad. sk.	Palow, Thayetmyo, Sept. 18, 1872.	Hume Coll.
g^5, h^5. ♂ ♀ ad. sk.	Pegu.	Tweeddale Coll.
i^5, k^5. ♂ ad.; l^5, m^5, n^5. ♀ ad. sk.	Tonghoo, May, Oct. Nov. (*R. G. W. R.*).	Tweeddale Coll.

20. DENDROPICUS.

	Type.
Dendropicus, *Malh. Rev. Zool.* 1849, p. 532	D. cardinalis.
Erythronerpes, *Reichenb. Scans. Picinæ*, p. 356 (1854).	D. abyssinicus.
Pardipicus, *Bp. Consp. Volucr. Zygod.* no. 135 (1854).	D. gabonensis.
Ipoctonus, *Cab. & Heine, Mus. Hein.* iv. p. 114 (1863).	D. hemprichi.
Ipopatis, *Cab. & Heine, Mus. Hein.* iv. p. 129 (1863).	D. gabonensis.

Range. Throughout the greater part of the Ethiopian Region (probably including the countries between Kordofan and Senegambia).

Key to the Species.

A. Shafts of quills and of tail-feathers golden yellow above and below.
  a'. Above distinctly barred in both adult and young.
    a''. Upper parts olive or dusky olive barred with yellow or yellowish white; upper tail-coverts olive-golden tinged with red; underparts entirely striped.
      a'''. Larger: length 6 inches, wing 3·75; underparts dull white or slightly yellowish, broadly striped with black; hind neck dusky black.
        a^4. Hind part of crown, occiput, and nape red; sinciput umber-brown — *cardinalis* ♂ ad., p. 296.
        b^4. Entire top of the head, occiput, and nape black ..... — *cardinalis* ♀ ad., p. 296.
      b'''. Smaller: length 5·5 inches, wing 3·6; underparts pale yellow narrowly streaked with blackish; hind neck dusky, washed with olive.
        c^4. Hind part of crown, occiput, and nape red; sinciput umber-brown. — *zanzibari* ♂ ad., p. 298.

d[1]. Entire top of the head, occiput, and nape black ..... *zanzibari* ♀ ad., p. 298.

b''. Upper parts dusky brown barred with white; upper tail-coverts red.

c'''. Chin and throat uniform, the chest and underparts as well as the under tail-coverts spotted with brown, the thighs barred.

e[1]. With red occipital band ..... *minutus* ♂ ad., p. 299.

f[1]. With no red on the occiput, this being pale umber-brown like the forehead and crown ..... *minutus* ♀ ad , p. 299.

d'''. Chin, throat, and chest striped, the abdomen spotted; the flanks, thighs, and under tail-coverts barred.

g[1]. Crown red; forehead umber-brown..... *hemprichi* ♂ ad., p. 300.

h[1]. With no red on the crown; hind part of the crown, occiput, and nape brownish black ..... *hemprichi* ♀ ad., p. 300.

b'. Above uniform in adult, with faint dusky bars in young only.

c''. Upper tail-coverts tipped with red.

e'''. Hind part of crown, occiput, and nape red ..... *lafresnayi* ♂ ad., p. 301.

f'''. With no red on the head, the forehead and crown dark brown, the occiput and nape black ..... *lafresnayi* ♀ ad., p. 301.

d''. With no red on the upper tail-coverts.

g'''. With dark auricular stripe as well as malar stripe.

i[1]. Vertex and occiput red ..... *lepidus* ♂ ad., p. 302.

j[1]. Vertex and occiput smoky brown. *lepidus* ♀ ad., p. 302.

h'''. With no auricular stripe.

k[1]. Hind part of the crown and the occiput red; sinciput umber-brown ..... *sharpii* ♂ ad., p. 302.

l[1]. With no red on the crown or occiput, these being black .... *sharpii* ♀ ad., p. 303.

B. Shafts of quills and of tail-feathers brown above, yellow or whitish below.

c'. Upper tail-coverts and lower rump-feathers brilliant scarlet; the nape nearly black, and the back with faint dusky bars in the young.

e''. Hind part of the crown and the occiput red ..... *abyssinicus* ♂ ad., p. 303.

f''. With no red on the crown or occiput, these being umber-brown like the forehead ..... *abyssinicus* ♀ ad., p. 304.

d'. With no red on the upper tail-coverts or rump.

g''. Face, including the ear-coverts, striped with black; malar stripe black and short; underparts spotted with black.

i'''. Hind part of the crown, occiput, and nape red..... *gabonensis* ♂ ad., p. 304.

j''. With no red on the crown, occiput, or nape, these, together with the forehead, being dark brown washed with olive ..... *gabonensis* ♀ ad., p. 305.

h''. With no black striations on the face; the ear-coverts and stripe behind, also a broad malar stripe bordering the chin, throat, and fore neck, uniform dark umber-brown; underparts broadly striped with deep olive.

k'''. Occiput and nape (only) red .... *lugubris* ♂ ad., p. 305.

l'''. With no red on the crown, occiput, or nape ..... *lugubris* ♀ ad., p. 305.

m'''. The olive-brown feathers of the crown and occiput tipped with dull red..... *lugubris* juv., p. 305.

1. Dendropicus cardinalis.

Le Pic Cardinal de l'Isle de Luçon, *Somn. Voy. Nouv. Guin.* i. p. 72, pl. xxxv. (1776).

Le Grand Pic varié de l'Isle de Luçon, *Buff. Hist. Nat. Ois.* vii. p. 403 (1783).

Picus guineensis, *Scop. Del. Fl. et Faun. Insubr.* ii. p. 89 (1786, *ex Sonn.*); *Gray, Gen. B.* ii. p. 435 (1845).

Cardinal Woodpecker, *Lath. Gen. Syn.* i. p. 576, no. 22 (1788, *ex Sonn.*).

Picus cardinalis, *Gm. Syst. Nat.* i. p. 438, no. 51 (1788, *ex Sonn.*); *Lath. Ind. Orn.* i. p. 233 (1790); *Steph. Gen. Zool.* ix. p. 176 (1815); *Bonn. & Vieill. Enc. Méth.* iii. p. 1308 (1823); *Wagl. Syst. Av.* Picus, sp. 91 (1827); *Sunder. Consp. Av. Picin.* p. 42, no. 124 (1866).

Le Petit Pic à bagnettes d'or, *Temm. Cat. Syst. Cabin. Orn.* 1807, p. 212; *Levaill. Ois. d'Afr.* vi. p. 25, pl. cclii. (1808); *Sunder. Krit. Framst. Levaill.* 1857, p. 52.

Picus fuscescens, *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 86 (1818, *ex Levaill.*); *Bonn. & Vieill. Enc. Méth.* iii. p. 1314 (1823).

Picus fulviscapus (Ill.), *Licht. Verz. Doubl.* 1823, p. 11; *Wagl. Syst. Av.* Picus, sp. 45 (1827); *id. Isis*, p. 513 (1829); *Rüpp. Neue Wirb. Vög.* p. 89 (1835); *Licht. Verz. Säugeth. und Vög. Kaffernl.* 1842, p. 18; *Grill, Zool. Anteckn.* pp. 11, 44 (1858); *Shelley* (pt.), *P. Z. S.* 1881, p. 593.

Colaptes capensis, *Steph. Gen. Zool.* xiv. p. 171 (1826).

Picus chrysopterus, *Cuv. in Mus. Paris*; *Less. Traité*, i. p. 220 (1831); *id. Compl. Buff.* ix. p. 303 (1837).

Dendrobates fulviscapus, *Swains. Classif. B.* ii. p. 306 (1837); *Gray, List Gen.* 1841, p. 70; *id. Gen. B.* ii. p. 437 (1846); *Bonap. Consp. Gen. Av.* i. p. 124 (1850); *Layard, B. S. Afr.* 1867, p. 237.

Picus capensis, *Forst. Descr. Anim.* no. 47, p. 43 (1844).

Dendropicos hartlaubii *, *Malh. Rev. de Zool.* 1849, p. 532.

Dendropicus hartlaubii, *Malh. Mém. Acad. Metz*, 1849, p. 339; *Bonap. Consp. Volucr. Zygod.* p. 9 (1854); *Malh. Picidæ*, i. p. 201, pl. xliv. figs. 1, 2 (1861); *Gray, List Picid. Brit. Mus.* 1868, p. 65; *id. Hand-l. B.* ii. p. 189, no. 8651 (1870); *Sharpe, Cat. Afr. B.* p. 18 (1871); *Gurney in Anderss. B. Dam.-Ld.* p. 219 (1872); *Buckley, Ibis*, 1874, p. 368; *Sharpe, ed Layard's B. S. Afr.* p. 189 (1875); *Gurney, Ibis*, 1877, p. 342.

* Only a very old bird.

Chrysocolaptes cardinalis, *Bonap. Consp. Gen. Av.* i. p. 122 (1850); *Reichenb. Scans. Picinæ*, p. 339 (1854).
Dendrobates hartlaubi, *Bonap. Consp. Gen. Av.* i. p. 124 (1850), pt.; *Bocage, Jorn. Sc. Lisb.* 1880, p. 232.
Dendrobates fuscescens, *Strickl. & Sclat. Contr. Orn.* 1852, p. 155.
Dendropicus fuscescens, *Bonap. Consp. Volucr. Zygod.* p. 9 (1854).
Dendropicus cardinalis, *Bonap. Consp. Volucr. Zygod.* p. 9 (1854); *Gray, List Picid. Brit. Mus.* 1868, p. 64; *id. Hand-l. B.* ii. p. 189, no. 8649 (1870); *Sharpe, Cat. Afr. B.* 1871, p. 18; *Gurney, in Anderss. B. Dam.-Ld.* p. 220 (1872); *Sharpe, ed. Layard's B. S. Afr.* 1875, p. 190; *Barratt, Ibis*, 1876, p. 200; *Sharpe, in Oates' Matabele-Land*, App. p. 306 (1881); *Butler, Feilden, & Reid, Zoologist*, 1882, p. 208; *Hargitt, Ibis*, 1883, p. 437; *Symonds, op. cit.* 1887, p. 330; *Büttik. Notes Leyd. Mus.* 1889, p. 69.
Campethera fulviscapa, *Reichenb. Scans. Picinæ*, p. 424, pl. dclxxiv. figs. 4459–60.
Campethera hartlaubii, *Reichenb. Scans. Picinæ*, p. 426 (1854).
Dendropicus fulviscapus, *Malh. Picidæ*, i. p. 196, pl. xliii. figs. 1–3 (1861); *Ayres, Ibis*, 1879, p. 298; *Holub & Pelz. Orn. Südafr.* p. 163 (1882).
Ipoctonus cardinalis, *Cab. & Heine, Mus. Hein.* iv. p. 119 (1863).
Ipoctonus hartlaubi, *Cab. & Heine, Mus. Hein.* iv. p. 115 (1863).
Picus hartlaubi, *Sundev. Consp. Av. Picin.* p. 43, no. 125 (1866); *Finsch & Hartl. Vög. Ostafr.* p. 512 (1870); *Fischer & Reichenow, J. f. O.* 1877, p. 207; *id. op. cit.* 1878, p. 254; *Fischer, tom. cit.* p. 292.
Dendrobates cardinalis, *Buckley, Ibis*, 1874, p. 368; *Salvin, Cat. Strickl. Coll.* p. 392 (1882); *Sousa, Jorn. Sc. Lisb.* 1886, p. 6.

Adult male. Back, scapulars, and rump deep olive barred with yellow; upper tail-coverts olive-golden, with almost obsolete darker bars and tinged with red; wing-coverts brown, transversely spotted with yellowish white, the forearm uniform olive; quills brown, the outer webs minutely spotted with yellow or yellowish white, the inner webs with larger white spots; shafts golden yellow; tail brownish black, narrowly barred or transversely spotted with buffy white, the central pair of feathers washed with olive-golden; shafts golden yellow: nasal plumes and sinciput umber-brown; hinder part of crown, also the occiput and nape, scarlet; hind neck dusky black; sides of the face and neck, chin, and throat white, the former with a few narrow blackish striations; malar stripe blackish brown, and bordering the throat; fore neck white, and all the underparts pale yellow or yellowish white, the whole being striped with black or blackish brown; under tail-coverts like the underparts, but barred as well as streaked with blackish brown; under wing-coverts and axillaries yellowish white, the former striped and barred with blackish brown: "iris red; bill lead-colour; legs dull green" (*T. Ayres*). Total length 6 inches, culmen 0·8, wing 3·75, tail 1·9, tarsus 0·63; toes (without claws)—outer anterior 0·45, outer posterior 0·55; inner anterior 0·35, inner posterior 0·25.

Adult female. Differs from the adult male in the absence of red on the head, the crown being dark sepia-brown, the occiput and nape black. Total length 6 inches, culmen 0·73, wing 3·6, tail 1·8, tarsus 0·65.

Hab. Cape Colony and north to the Zambesi; on the west through Great Namaqua-Land, Damara-Land, and in Angola north to the Quanza River.

a. Ad. sk.	South Africa.	Gould Coll.
b. ♂ ad. sk.	Cape Colony.	Tweeddale Coll.
c. Juv. sk.	Cape Colony.	Sharpe Coll.
d. ♂ ad. sk.	Kingwilliamstown.	Major Trevelyan [P.].
e. ♂ ad. sk.	Elands Post, April (*T. C. Atmore*).	Shelley Coll.
f, *g*. ♂ ad.; *h*. ♀ ad. sk.	Elands Post (*T. C. Atmore*).	Sharpe Coll.
i. Ad. sk.	Rhinoceros River.	F. A. Barratt [C.].
k. ♂ ad. sk.	Natal.	Sharpe Coll.
l. ♀ ad. sk.	Natal, May (*T. E. Buckley*).	Shelley Coll.
m, *n*. ♂ ♀ ad. sk.	Durban, Natal, Oct. (*T. L. Ayres*).	Shelley Coll.
o. ♂ ad. sk.	Pinetown (*T. L. Ayres*).	Seebohm Coll.
p. Ad. sk.	Weenen, March (*Gordge*).	Shelley Coll.
q, *r*. ♂ ♀ ad. sk.	Newcastle, Natal, Nov. (*E. A. Butler*).	Shelley Coll.
s. ♂ imm. sk.	Swaziland, July (*T. E. Buckley*).	Shelley Coll.
t, *u*. ♂ ♀ ad. sk.	Zulu-Land, July (*Gordge*).	Shelley Coll.
v. ♂ ad. sk.	Transvaal, July (*T. E. Buckley*).	Shelley Coll.
w. ♂ ad. sk.	Transvaal, July.	T. E. Buckley, Esq. [P.].
x. ♂ ad. sk.	Transvaal.	A. Foresman, Esq. [P.].
y. ♀ ad. sk.	Between Pretoria and Bamangwato (*F. Oates*).	W. E. & C. G. Oates, Esqrs. [P.].
z. ♂ ad. sk.	Bamangwato, Nov. (*T. E. Buckley*).	Shelley Coll.
a'. ♀ ad. sk.	Tati, Matabele-Land, Oct. (*F. Oates*).	W. E. & C. G. Oates, Esqrs. [P.].
b', *c'*. ♂ ad.	Kanye (*Dr. Exton*).	Sharpe Coll.
d', *e'*. Ad. sk.	Makalaka Country (*Dr. Bradshaw*).	Shelley Coll.
f', *g'*. ♂ ♀ ad. sk.	Damara-Land.	C. J. Andersson [C.].
h'. ♂ ad.; *i'*, *k'*, *l'*. ♀ ad. sk.	Otjimbinque, April, June, Oct. (*C. J. Andersson*).	Tweeddale Coll.
m'. ♀ ad. sk.	Otjimbinque, June (*C. J. Andersson*).	Shelley Coll.
n', *o'*. ♂ ♀ ad. sk.	Otjimbinque, June, Sept. (*C. J. Andersson*).	Sharpe Coll.
p'. ♂ imm. sk.	Elephant Vley, Sept. (*C. J. Andersson*).	Tweeddale Coll.
q', *r'*. ♂ ♀ ad. sk.	Swakop River, April (*C. J. Andersson*).	Tweeddale Coll.
s'. ♂ ad. sk.	Benguella.	Monteiro Coll.

Subsp. *a*. **Dendropicus zanzibari.**

Dendropicus zanzibari, *Malh. Picidæ*, i. p. 201 (1861); *Gurney, Ibis*, 1882, p. 73; *Hargitt, tom. cit.* p. 73 (note); *id. Ibis*, 1883, p. 441; *Hartl. Zool. Jahrb. Zeitsch. Syst. Geogr. Biol. Thiere*, 1887, p. 307.

Dendropicus hartlaubi, *Malh. Picidæ*, i. p. 201 (1861) (pt.); *Sharpe, P. Z. S.* 1869, p. 569 (pt.); *Dubois, Bull. Mus. Roy. d'Hist. Nat. Belg.* 1886, p. 147.
Dendrobates hartlaubii, *Kirk, Ibis*, 1864, p. 328; *Bocage, Orn. Ang.*, App. p. 535 (1881).
Dendrobates cardinalis (*non Gm.*), *Sharpe, P. Z. S.* 1871, p. 135; *Bocage, Orn. Ang.* 1877, p. 76.
Picus hartlaubi, *Sharpe, P. Z. S.* 1873, p. 711; *Fisch. & Reichen. J. f. O.* 1878, p. 254; *Böhm, J. f. O.* 1883, p. 168.
Ipoctonus hartlaubi, *Cabanis, J. f. O.* 1878, p. 238.
Picus fulviscapus (pt.), *Shelley, P. Z. S.* 1881, p. 593.
Dendropicus cardinalis (*non Gm.*), *Dubois, Bull. Mus. Roy. d'Hist. Nat. Belg.* 1886, p. 147; *Shelley, Ibis*, 1888, p. 295.

Adult male. This well-defined subspecies or race may be distinguished from *D. cardinalis* by its smaller size, with yellower underparts and the striations on these very narrow, by its yellowish-olive colour above, and also by the olive shading on the nape, which is never so black as in *D. cardinalis*. "Iris reddish brown; bill and feet leaden grey" (*Fischer*). Total length 5·5 inches, culmen 0·8, wing 3·4, tail 1·7, tarsus 0·6; toes (without claws)—outer anterior 0·45, outer posterior 0·55, inner anterior 0·35, inner posterior 0·25.

Young male (*1st year*). Is more dusky above than the adult, and has a somewhat spotted rather than a distinctly barred appearance; the shafts of the quills are white; the tail more dusky and the shafts yellowish white; the sides of the face and neck duller white; under surface of the body not tinged with yellow, and the underside of the tail without any golden gloss. The nestling has the barring on the back almost pure white.

Adult female. Resembles the male, but wants the scarlet on the posterior portion of the crown and occiput, these parts being dull brown; under tail-coverts barred with dusky. Total length 5·8 inches, culmen 0·75, wing 3·4, tail 1·8, tarsus 0·6.

Hab. East Africa from the Zambesi north to Lamu, and on the west from Loanda to the Congo.

a. ♂ ad. sk.	Caconda, Angola (*Anchieta*).	Sharpe Coll.
b, c. ♂ ♀ ad. sk.	Loanda, Congo.	J. J. Monteiro, Esq. [C.].
d. ♀ ad. sk	Loanda, Sept. (*Sala*).	Sharpe Coll.
e, f. ♂ ♀ ad. sk.	Shupanga, Shiré River, April.	Sir J. Kirk [C.].
g. ♂ ad. sk.	Zanzibar, April (*Dr. Fischer*).	Shelley Coll.
h, i. ♂ ♀ ad. sk.	Zambesi.	Sir J. Kirk [C.].
k. ♂ ad. sk.	Zambesi, April (*Dr. Miller*).	Tweeddale Coll.
l. ♀ imm. sk.	Ugogo (*Sir J. Kirk*).	Shelley Coll.
m, n. ♂ ♀ ad. sk.	Usambara Hills, Pangani R. (*Kirk*).	Shelley Coll.
o. ♂ ad. sk.	Dar-es-Salaam (*Sir J. Kirk*).	Shelley Coll.
p. ♀ ad. sk.	Mombas.	R. B. Sharpe, Esq. [P.].
q. ♂ ad. sk.	Ngele Kele, July.	Dr. Hildebrandt [C.].
r. ♂ ad.; *s*. Imm. sk.	Rovuma River (*J. Thompson*).	Shelley Coll.

t, *u*. ♀ ad. sk.	Lamu.	F. J. Jackson, Esq. [P.].
v, *w*. ♂ ad. sk.	Manda Island.	F. J. Jackson, Esq. [P.].

2. Dendropicus minutus.

Picus minutus, *Temm. Pl. Col.* pl. 197. fig. 2 (1823); *Steph. Gen. Zool.* xiv. p. 163 (1826); *Wagl. Syst. Av.* Picus, sp. 28 (1827); *Lesson, Traité*, i. p. 220 (1831); *Sundev. Consp. Av. Picin.* p. 44 (1866); *Heugl. Orn. N.O.-Afr.* p. 805 (1871).

Asthenurus minutus, *Less. Compl. Buff.* ix. p. 302 (1837).

Dendropicos minutus, *Malh. Mém. Acad. Metz*, 1849, p. 339.

Dendrobates minutus, *Bp. Consp. Gen. Av.* i. p. 125 (1850); *Hartl. J. f. O.* 1854, p. 199.

Campethera minuta, *Reichenb. Scans. Picinæ*, p. 425, pl. delxxiv. fig. 4463 (1854).

Dendropicus minutus, *Bp. Consp. Volucr. Zygod.* p. 9 (1854); *Hartl. Orn. W.-Afr.* p. 177 (1857); *Malh. Picidæ*, i. p. 208, pl. xlv. figs. 4, 5 (1861); *Hartl. J. f. O* 1861, p. 263; *Gray, List Picid. Brit. Mus.* p. 66 (1868); *id. Hand-l. B.* ii. p. 190, no. 8656 (1870); *Hargitt, Ibis*, 1883, p. 435.

Ipoctonus minutus, *Cab. & Heine, Mus. Hein.* iv. p. 114 (1863).

Adult male. Entire back, scapulars, and rump dark umber-brown, barred with white; wing-coverts pale umber-brown, more or less spotted with a darker brown and with whitish, the spotting having a barred character on the greater series; bastard-wing and primary-coverts dark umber-brown; quills dark umber-brown, spotted with white upon both webs; shafts golden yellow; upper tail-coverts scarlet; tail dark brown, the feathers deeply indented with buffy white and having a barred appearance; shafts golden yellow; nasal plumes, forehead, and crown light umber-brown; a broad scarlet occipital band; hind neck light brown, with darker brown spotting; lores and sides of face pale umber-brown; chin and throat white; sides of the neck, under surface of the body, and under tail-coverts dull white, spotted with dark brown, the spotting on the chest and breast being larger and strongly marked, that upon the thighs having a barred character; under wing-coverts buffy white, minutely spotted with brown. Total length 4·8 inches, culmen 0·65, wing 2·9, tail 1·35, tarsus 0·55; toes (without claws)—outer anterior 0·4, outer posterior 0·48, inner anterior 0·32, inner posterior 0·25.

Adult female. Differs from the adult male in wanting the red occipital band, the occiput being of the same colour as the forehead and crown, a pale umber-brown, with almost obsolete darker striations. Total length 4·8 inches, culmen 0 6, wing 2·95, tail 1·43, tarsus 0·58.

Hab. Senegal.

a. ♂ ad. sk.	Senegambia.	Tweeddale Coll.

3. Dendropicus hemprichi.

Picus hemprichii, *Hempr. & Ehrenb. Symb. Phys. Aves*, fol. r, p. 2 (1828); *Rüpp. Neue Wirb., Vög.* 1835, p. 59; *Heugl. J. f. O.* 1864,

p. 253; *Sundev. Consp. Av. Picin.* p. 43, no. 126 (1866); *Finsch & Hartl. Vög. Ostafr.* p. 514 (1870); *Blanf. Geol. & Zool. Abyss.* 1870, p. 306; *Finsch, Tr. Z. S.* 1870, p. 284; *Heugl. Orn. N.O.-Afr.* i. p. 804 (1871); *Dresser & Blanf. Ibis*, 1874, p. 336.

Dendrobates hemprichii, *Rüpp. Syst. Uebers.* 1854, p. 88, pl. xxxv.; *Bp. Consp. Gen. Av.* i. p. 124 (1850); *Heugl. Syst. Uebers.* 1856, p. 47; *id. Ibis*, 1859, p. 343; *Blanc. Spec. Zool. Mosamb.* 1865, p. 327.

Dendropicus hemprichii, *Bp. Consp. Volucr. Zygod.* p. 9 (1854); *Malh. Picidæ*, i. p. 199, pl. xliii. figs. 5, 6 (1861); *Brehm, Habesch*, pp. 221, 336 (1863); *Gray, List Picid. Brit. Mus.* 1868, p. 65; *id. Hand-l. B.* ii. p. 189, no. 8650 (1870); *Sharpe, Cat. Afr. B.* 1871, p. 18; *Heugl. Orn. N.O.-Afr.* iv. App. p. clxvi (1871); *Fisch. & Reichen. J. f. O.* 1878, p. 254; *Hargitt, Ibis*, 1883, p. 433; *Shelley, op. cit.* 1885, p. 393.

Campethera hemprichii, *Reichenb. Scans. Picinæ*, p. 424, pl. dclxxiv. figs. 4461–4462 (1854).

Dendrobates abyssinicus, *Licht. Nomencl. Av.* 1854, p. 76.

Dendromus hemprichii, *Blyth, J. A. S. Beng.* xxiv. p. 299 (1855); *Speke, Ibis*, 1860, p. 245; *Sclat. Rep. Coll. Somali Country*, 1869, p. 11.

Ipoctonus hemprichi, *Cab. & Heine, Mus. Hein.* iv. p. 114 (1863); *Salvad. Ann. Mus. Civ. Stor. Nat. Genov.* 1888, p. 211.

Adult male. Upper parts, together with the wings and their coverts, dusky brown, the back, scapulars, rump, and upper series of upper tail-coverts barred with white, the lower series of the latter being blood-red; wing-coverts and quills on both webs spotted with white, shafts of the latter golden yellow; tail blackish brown, narrowly barred with buff; shafts golden yellow; nasal plumes brownish white; forehead umber-brown, with paler brown spots; crown and occiput dull scarlet, the nape black; hind neck like the back; sides of the face and neck, chin and throat pure white, striped with dusky black; malar stripe umber-brown; underparts below the throat, also the under tail-coverts, dull white; the fore neck, chest, and breast striped (more or less broadly), the abdomen spotted, and the flanks, thighs, and under tail-coverts barred with brownish black; under wing-coverts white, spotted with blackish brown. Total length 5·5 inches, culmen 0·68, wing 3, tail 1·68, tarsus 0·55; toes (without claws)—outer anterior 0·45, outer posterior 0·55, inner anterior 0·37, inner posterior 0·23.

Adult female. Differs from the adult male in wanting the red on the head, the sinciput being of a darker umber-brown and devoid of lighter spotting, the posterior part of the crown and the occiput brownish black. Total length 5·3 inches, culmen 0·7, wing 3·2, tail 1·55, tarsus 0·55.

Hab. Abyssinia, Bogos-Land, and Adal; south into Shoa and Somali-Land, and west into Senaar and Kordofan. Possibly occurs also in Senegal, as there is an example in the collection said to be from this locality (*Verreaux*).

a. ♀ ad.; *b.* ♂ juv. sk.	Abyssinia.	Dr. Rüppell [C.].
c. ♂ imm. sk.	Magen, near Senafé, Feb.	W. T. Blanford, Esq. [C.].

d. ♂ ad.; *e.* ♀ imm. sk.	Ailat, Bogos (*Esler*).	Sharpe Coll.
f, *g.* ♀ ad. sk.	Ailat (*Esler*).	Shelley Coll.
h. ♀ ad. sk.	Ailat, June (*W. Jesse*).	Tweeddale Coll.
i. ♀ ad. sk.	Rairo, Bogos (*W. Jesse*).	Sharpe Coll.
k, *l.* ♂ ♀ ad. sk.	Rairo, Aug. (*W. Jesse*).	Tweeddale Coll.
m. ♀ ad. sk.	Somali-Land.	E. Lort Phillips, Esq. [P.].
n. ♂ juv. sk.	Ukambani, E. Africa.	Dr. Hildebrandt [C.].
o. ♂ ad. sk.	Senegambia (*Verreaux*).	Sharpe Coll.
p. Bones of trunk.	Abyssinia.	W. T. Blanford, Esq. [C.].

4. Dendropicus lafresnayi.

Dendropicos lafresnayi, *Malh. Rev. de Zool.* 1849, p. 533.

Dendrobates lafresnayi, *Bonap. Consp. Gen. Av.* i. p. 125 (1850); *J. & E. Verreaux, Rev. et Mag. de Zool.* 1855, p. 272; *Bocage, Orn. Ang.*, App. p. 535 (1877).

Campethera lafresnayi, *Reichenb. Scans. Picinæ*, p. 426, no. 1002 (1854).

Dendropicus lafresnayi, *Bonap. Consp. Volucr. Zygod.* p. 9 (1854); *Hartl. Orn. W.-Afr.* p. 177 (1857); *Malh. Picidæ*, i. p. 204, pl. xliv. fig. 4 (1861); *Hartl. J. f. O.* 1861, p. 263; *Gray, List Picid. Brit. Mus.* p. 66 (1868); *id. Hand-l. B.* ii. p. 192, no. 8654 (1870); *Sharpe & Bouvier, Bull. Soc. Zool. France*, 1876, p. 50; *Reichenow, Mitth. Afrik. Gesellsch.* i. p. 3; *Bocage, Jorn. Acad. Sc. Lisb.* xxix. 1880, p. 49; *Hargitt, Ibis*, 1883, p. 425; *Shelley, t. c.* p. 556.

Ipoctonus lafresnayi, *Cab. & Heine, Mus. Hein.* iv. p. 116 (1863).

Picus lafresnayi, *Sundev. Consp. Av. Picin.* p. 43, no. 127 (1866); *Giebel, Thes. Orn.* iii. p. 162 (1876).

Dendrocopus lafresnayi, *Reichenow, J. f. O.* 1877, p. 18.

Adult male. Has the back, scapulars, rump, and upper tail-coverts uniform golden olive, the upper tail-coverts tinged with red; the lateral tail-feathers with buffy-white marginal spots, not barred across. In other respects this species closely resembles *D. zanzibari*, but the dimensions of *D. lafresnayi* are less. "Bill dark horn-colour; feet dark greenish; iris clear brown" (*Falkenstein*). Total length 5·5 inches, culmen 0·73, wing 3·2, tail 1·7, tarsus 0·55; toes (without claws)—outer anterior 0·4, outer posterior 0·5, inner anterior 0·3, inner posterior 0·2.

Adult female. Differs from the adult male in the absence of red on the head, the forehead and crown being dark brown, the occiput and nape black. Total length 5·5 inches, culmen 0·67, wing 3·2, tail 1·65, tarsus 0·6.

Young (sex?). The top of the head and the occiput are dark brown, the feathers of the crown being tipped with red; the face and neck white, the underparts rather yellower, the former spotted, the latter entirely covered with faint dusky stripes, these being darker on the chest; the back with only a trace of very indistinct dusky olive and yellowish bars.

Hab. West Africa from the Congo (or further south, as it has been recorded by Reichenow from Malange in Angola) to the Gold

Coast, and west to Casamanze (*Hartlaub*); Equatorial Africa (Tabbo, *Emin Pacha*).

a, b. ♂ ♀ ad. sk.	Landana, Congo (*Lucan & Petit*).	Shelley Coll.
c, d. ♂ ♀ ad. sk.	Congo.	R. M. Sperling, Esq. [P.].
e. ♀ ad. sk.	Shonga, R. Niger.	Forbes Coll.
f. Juv. sk.	Fantee (*Aubinn*).	Sharpe Coll.
g. ♂ ad. sk.	Tabbo, Equatorial Africa, May.	Emin Pacha [P.].

5. Dendropicus lepidus.

Ipoctonus lepidus, *Cab. & Heine, Mus. Hein.* iv. p. 118 (1863).
Picus lepidus, *Sundev. Consp. Av. Picin.* p. 44 (1866); *Heugl. Orn. N.O.-Afr.* p. 807 (1871).
Dendropicus lepidus, *Gray, List Picid. Brit. Mus.* p. 66 (1868); *id. Hand-l. B.* ii. p. 190, no. 8653 (1870); *Hargitt, Ibis,* 1883, p. 428.

Adult male. From the description given by Cabanis and Heine, this species would appear to bear a very close resemblance to both *D. lafresnayi* and *D. sharpii* in having the upper parts uniform, and from there being no mention of any red upon the upper tail-coverts it would come closer to the latter bird. The present species differs, however, from both the above-mentioned in having a broad postocular stripe (not so dark as the malar one) which neither of those possess, and agrees in this respect with *D. abyssinicus*, but the brilliant red upper tail-coverts of the latter, combined with the uniform back, clearly separate it from all the other *Dendropici*.

Female. Very like the male, but distinguished by the vertex and occiput being smoky brown; upper parts duller and somewhat varied with paler and more obsolete spots. Total length 5″, wing 3″ 1‴, tail 1″ 8‴, culmen 7‴, tarsus 6‴, middle toe without claw 5‴. (*Ex Cabanis & Heine.*)

Hab. Abyssinia.

6. Dendropicus sharpii.

Dendropicus sharpii*, *Oustalet, N. Arch. Mus.* (2) ii. p. 62 (1879); *Hargitt, Ibis,* 1883, p. 426.

Adult male. Back, scapulars, rump, and upper tail-coverts uniform golden olive, the upper tail-coverts devoid of any red, and in this respect differing from *D. lafresnayi*, with which it is otherwise almost identical. Total length 4·5 inches, culmen 0·68, wing 3·15, tail 1·8, tarsus 0·5; toes (without claws)—outer anterior 0·4, outer posterior 0·5, inner anterior 0·35, inner posterior 0·22.

* I have not seen any other examples of this species besides the types in the Paris Museum, from which my descriptions are taken. I am under the impression that, when we have a series for comparison, *D. sharpii* will be found to be the same as *D. lafresnayi*.

Young male. Resembles the adult of the same sex but is duller above and has dusky bars; the sinciput is darker, and the remainder of the crown and the occiput black, the feathers of the posterior half of the crown having scarlet tips, this colour coming more forward on the crown than in the adult.

Adult female. Differs from the adult male in wanting the red on the head, the sinciput being darker brown, the remainder of the crown and the occiput black. Total length 5 inches, culmen 0·6, wing 3·25, tail 1·6, tarsus 0·57.

Hab. Upper Ogowé River, West Africa.

7. Dendropicus abyssinicus.

Picus abyssinicus, *Stanley in Salt's Voy. Abyss.* ii. App. p. lvi (1814); *Rüpp. Syst Uebers.* p. 95 (1845); *Sundev. Consp. Av. Picin.* p. 44, no. 129 (1866).

Dendrobates abyssinicus, *Gray, Gen. B.* ii. p. 437 (1845).

Mesopicus desmursi, *Malh. Rev. et Mag. Zool.* 1849, p. 537.

Chloronerpes desmursi, *Bp. Consp. Gen. Av.* i. p. 118 (1850, *ex Malh.*).

Cyanopicus mursii, *Bp. Consp. Volucr. Zygod.* p. 10 (1854, *ex Malh.*).

Campethera abyssinica, *Reichenb. Scans. Picinæ*, p. 426 (1854).

Erythronerpes desmursii, *Reichenb. Scans. Picinæ*, p. 337 (1854, *ex Malh.*).

Chloronerpes (Erythronerpes) desmursii, *Reichenb. Scans. Picinæ*, p. 356 (1854, *ex Malh.*).

Dendromus abyssinicus, *Heugl. Syst. Uebers.* 1856, p. 47.

Dendropicus desmursi, *Malh. Picidæ*, i. p. 202, pl. xlii. figs. 5 & 6 (1861); *Gray, List Picid. Brit. Mus.* 1868, p. 65.

Ipoctonus abyssinicus, *Cab. & Heine, Mus. Hein.* iv. p. 116 (1863); *Salvad. Ann. Mus. Civ. Stor. Nat. Genov.* 1888, p. 210.

Picus habessinicus, *Heugl. Orn. N.O.-Afr.* p. 806 (1870, *ex Cabanis*).

Dendropicus abyssinicus, *Gray, Hand-l. B.* ii. p. 189, no. 8652 (1870); *Heugl. Orn. N.O.-Afr.* iv. p. clxvii (1871); *Hargitt, Ibis*, 1883, p. 429.

Dendropicus melanauchen, *Heugl. Orn. N.O.-Afr.* p. 808 (1871); *Hargitt, Ibis*, 1883, p. 430 (*ex Heugl.*).

Adult male. Has the upper parts and scapulars uniform golden olive, the lower feathers of the rump and the upper tail-coverts scarlet, these two characters separating it from all the other members of the genus. In other respects this species is almost identical with *D. cardinalis*, except that the shafts of the quills and rectrices are brown (not yellow) and the tail is entirely brownish black barred with buff or brownish buff, none of the feathers having a trace of the golden-olive colour found in that species: "iris bright chestnut; bill and feet plumbeous" (*Antinori*). Total length 6 inches, culmen 0·8, wing 3·85, tail 1·83, tarsus 0·63; toes (without claws) —outer anterior 0·5, outer posterior 0·57, inner anterior 0·35, inner posterior 0·25.

Young male *. Resembles the adult male, but is of a duller green

* The specimen from which this description is taken is in the Leiden Museum, and is the type of Heuglin's *D. melanauchen*.

above, and marked with indistinct dusky bars; the nape brownish black, this forming a conspicuous patch; upper tail-coverts orange-red; the auricular and malar stripes darker and of a dusky brown colour, and much more extended: "bill blackish-horn colour; feet dusky lead-colour; iris red" (*Heuglin*).

Adult female. Has no red on the head, the forehead, entire crown, and occiput being uniform brown, and the nape dusky brown. In other respects like the adult male. Total length 6 inches, culmen 0·7, wing 3·75, tail 1·9, tarsus 0·62.

Hab. Abyssinia and Shoa.

a. ♂ ad. sk. Shoa, Aug. 1, 1879 (*A. Antinori*). Shelley Coll.

8. Dendropicus gabonensis.

Dendrobates gabonensis, *J. & E. Verreaux, Rev. et Mag. de Zool.* 1851, p. 513; *Hartl. J. f. O.* 1854, p. 198.

Dendrodromus nigriguttatus, *Verr. MSS.* (female).

Dendropicus gabonensis, *Bonap. Consp. Volucr. Zygod.* p. 9 (1854); *Reichenb. Scans. Picinæ*, p. 429, no. 1012 *d* (1854); *Hartl. Orn. W.-Afr.* p. 178 (1857); *Cass. Proc. Acad. Philad.* 1859, p. 141; *Heine, J. f. O.* 1860, p. 191; *Hartl. op. cit.* 1861, p. 263; *Hargitt, Ibis*, 1883, p. 444, pl. xii. fig. 1.

Pardipicus nigriguttatus, *Bonap. Consp. Volucr. Zygod.* p. 9 (1854).

Scolecotheres nigriguttatus, *Reichenb. Scans. Picinæ*, p. 429, no. 1012 *c* (1854).

Dendromus (Pardipicus) nigriguttatus, *Hartl. Orn. W.-Afr.* p. 182 (1857); *id. J. f. O.* 1861, p. 264.

Dendropicus nigriguttatus, *Cass. Proc. Acad. Philad.* 1859, p. 141.

Chrysopicus gabonensis, *Malh. Picidæ*, ii. p. 149, pl. xci. figs. 1, 2 (1862).

Ipopatis gabonensis, *Cab. & Heine, Mus. Hein.* iv. p. 129 (1863).

Picus gabonensis, *Sundev. Consp. Av. Picin.* p. 63 (1866).

Campethera gabonensis, *Cassin, Proc. Acad. Philad.* 1863, p. 326; *Gray, List Picid. Brit. Mus.* p. 79 (1868); *id. Hand-l. B.* ii. p. 192, no. 8690 (1870).

Adult male. Back, scapulars, rump, and upper tail-coverts uniform bright olive, the wing-coverts uniform deeper olive; quills blackish brown, the outer webs of the secondaries and the margins of the outer webs of inner primaries at the base bright olive, the outer primaries having a few dull white spots on the outer webs, the inner webs of all the quills with larger spots of white; shafts dark brown; tail blackish brown, the central feathers margined with olive at the base, the lateral ones having fulvescent whitish spots on both webs, and the whole with a trace of blackish bars or transverse marginal spots; shafts clear brown; nasal plumes brownish black; forehead greenish brown; crown and occiput scarlet; sides of the face and neck greenish white striped with black; a narrow black malar stripe; chin, throat, and fore neck yellowish white, with triangular spots and stripes of black; the whole of the underparts and under tail-coverts greenish yellow; the chest and breast in reality striped

with black, but having a spotted appearance, owing to the stripes contracting in the centre, and also from the yellow tips of the feathers concealing the basal part of those beneath; the thighs are barred, but all the remaining underparts as well as the under tail-coverts are spotted with black; under wing-coverts and axillaries pale yellow, the former having rounded spots of black, the latter barred with the same. Total length 5 inches, culmen 0·8, wing 3·1, tail 1·55, tarsus 0·57; toes (without claws)—outer anterior 0·42, outer posterior 0·5, inner anterior 0·35, inner posterior 0·2.

Female. From Malherbe's description of this sex, it would appear to differ from the male mainly in the absence of red on the head, the whole of the top of the head being brown slightly washed with olive.

Hab. Gaboon.

a. ♂ ad. sk.	Gaboon.	Purchased.

9. **Dendropicus lugubris.**

Dendropicus lugubris, *Hartl. Orn. W.-Afr.* p. 178 (1857); *Hargitt, Ibis*, 1883, p. 445, pl. xii. fig. 2; *Büttik. Notes Leyd. Mus.* 1885, p. 220; *id. op. cit.* 1886, p. 263.

Campethera gabonensis (*non Verr.*), *Sharpe, Cat. Afr. B.* p. 17, no. 156 (1871); *id. Ibis*, 1872, p. 68; *Shelley & Buckley, tom. cit.* p. 287.

Adult male. Resembles *D. gabonensis*, but differs in having the ear-coverts and a stripe behind uniform dark umber-brown, and a broad malar stripe bordering the throat and fore neck of the same umber-brown colour; the red confined to the occiput and nape and not extending (in the adult) on to the dark brown crown; the underparts and under tail-coverts yellow, and (except the thighs which are barred) very broadly striped with deep olive; under wing-coverts and axillaries pale yellow spotted with black: "iris carmineous: bill greyish black; feet greyish green" (*Büttikofer*). Total length 5·3 inches, culmen 0·75, wing 3·2, tail 1·45, tarsus 0·58; toes (without claws)—outer anterior 0·42, outer posterior 0·5, inner anterior 0·35, inner posterior 0·25.

Adult female. Differs from the adult male in wanting the red on the occiput and nape, these, as well as the forehead and crown, being brown. Total length 5·2 inches, culmen 0·75, wing 3·2, tail 1·45, tarsus 0·6.

Young (sex?). In general plumage like the adult, but duller; the point in which it differs from the adult of either sex is in having the olive-brown feathers of the crown as well as of the occiput tipped with dull scarlet.

Hab. Fantee; Aguapim (*Riis*).

a. ♂ ad. sk.	Wassa Country.	Capt. Cameron & Sir R. Burton [P.].
b. ♀ ad. sk.	Fantee.	Mr. Aubinn [C.].
c. Juv. sk.	Fantee.	Sharpe Coll.
d. ♂ ad. sk.	Fantee.	A. Swanzy, Esq. [P.].

e. ♀ ad. ; *f*. Imm. sk.	Fantee (*H. T. Ussher*).	Shelley Coll.
g, *h*. ♀ ad. sk.	Abouri, Aguapim, Feb. (*G. E. S.*).	Shelley Coll.
i. ♀ ad. ; *k*. ♂ imm. sk.	Abouri, Aguapim, Feb. (*T. E. Buckley*).	Shelley Coll.

21. THRIPIAS.

Type.

Thripias, *Cab. & Heine, Mus. Hein.* iv. p. 121 (1863).. T. namaquus.

Range. From Swazi-Land and the Transvaal extending westward into Damara-Land and Angola as far as Galungo; on the east ranging north into Somali-Land and westward into Shoa and the Niam-Niam Country.

Key to the Species.

A. Chest and breast barred like the rest of the underparts.
  a'. Occiput and nape red ..... *namaquus* ♂ ad., p. 307.
  b' With no red on the occiput or nape.... *namaquus* ♀ ad., p. 308.
B. Chest and breast black, spotted with white.
  c'. Occiput and nape red..... *schoensis* ♂ ad., p. 309.
  d. With no red on the occiput or nape .. *schoensis* ♀ ad., p. 309.

1. Thripias namaquus.

Picus namaquus, *Licht. Cat. rer. Nat. Hamb.* p. 17, no. 179 (1793); *Sundev. Consp. Av. Picin.* p. 42, no. 122 (1866); *Finsch & Hartl. Vög. Ostafr.* p. 507 (1870); *Böhm, J. f. O.* 1883, p. 186.

Pic à moustaches noires, *Temm. Cat. Syst.* 1807, p. 213.

Le Pic à double moustache, *Levaill. Ois. d'Afr.* vi. p. 22, pls. 251, 252 (1808); *Sundev. Krit. Framst. Levaill.* p. 52 (1857).

Picus mystaceus, *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 73 (1818); *Bonn. & Vieill. Enc. Méth.* iii. p. 1307 (1823).

Picus punctatus, *Vieill.* (*non Cuv.*) *N. Dict. d'Hist. Nat.* xxvi. p. 89 (1818); *Bonn. & Vieill. Enc. Méth.* iii. p. 1316 (1823); *Wagl. Syst. Av.* Picus, sp. 37 (1827, *ex Vieill.*).

Picus biarmicus, *Cuv. in Mus. Paris*: *Valenc. Dict. Sc. Nat.* xl. p. 176 (1826); *Wagl. Syst. Av.* Picus, sp. 44 (1827); *Less. Traité*, i. p. 220 (1831); *Rüpp. Syst. Uebers.* 1845, p. 85.

Picus diophrys, *Steph. Gen. Zool.* xiv. p. 161 (1826).

Dendromus punctatus, *Swains.* (*non Cuv.*) *Classif. B.* ii. p. 307 (1837, *ex Wagl.*); *Bp. Consp. Volucr. Zygod.* p. 9 (1854).

Dendrobates namaquus, *Gray, Gen. B.* ii. p. 437 (1849); *Bp. Consp. Gen. Av.* i. p. 124 (1850); *Strickl. & Sclat. Contr. Orn.* 1852, p. 155; *Kirk, Ibis*, 1864, p. 328; *Bocage, Jorn. Lisb.* iv. 1867, p. 336; *Layard, B. S. Afr.* p. 236 (1867); *Bocage, Jorn. Lisb.* viii. 1870, p. 348; *Sharpe, P. Z. S.* 1871, p. 134; *Layard, Ibis*, 1871, p. 227; *Ayres, tom. cit.* p. 261; *Bocage, Jorn. Lisb.* xvi. p. 286 (1873); *Buckley, Ibis*, 1874, p. 368; *Bocage, Jorn. Lisb.* xxii. 1877, p. 143; *id. Orn. Angola*, p. 75 (1877); *id. Jorn.*

Lisb. 1880, p. 232; *Sousa, op. cit.* 1889, p. 43; *Salvin, Cat. Strickl. Coll.* p. 392 (1882).

Dendropicus mystaceus, *Malh. Mém. Acad. Metz*, 1849, p. 339.

Campethera namaqua, *Reichenb. Scans. Picinæ*, p. 422, pl. dclxxii. figs. 4451, 4452 (1851).

Campethera punctata, *Reichenb. Scans. Picinæ*, p. 425 (1851, *ex Vieill.*).

Dendropicus namaquus, *Bp. Consp. Volucr. Zygod.* p. 9 (1854); *Gray, List Picid. Brit. Mus.* p. 69 (1868); *id. Hand-l. B.* ii. p. 190. no. 8664 (1870); *Sharpe, Cat. Afr. B.* p. 18 (1871); *Bocage, Jorn. Lisb.* xvii. 1874, p. 57; *Sharpe, ed. Layard's B. S. Afr.* p. 188 (1875); *Ayres, Ibis*, 1879, p. 300; *Sharpe, in Oates' Matabele-Land*, App. p. 306 (1881).

Dendropicus biarmicus, *Malh. Picidæ*, i. p. 193, pl. xlii. figs. 4–6 (1861).

Thripias namaquus, *Cab. & Heine, Mus. Hein.* iv. p. 121 (1863).

Dendrobates schoensis (*non Rüpp.*), *Shelley, P. Z. S.* 1881, p. 593.

Mesopicus schoensis (*non Rüpp.*), *Harg. Ibis*, 1883, p. 410.

Mesopicus decipiens *, *Sharpe, Journ. Linn. Soc.* xvii. p. 430 (1884).

Mesopicus namaquus, *Harg. Ibis*, 1883, p. 407; *Fischer, Madar. Zeitschr. gesamm. Orn.* 1884, p. 368; *Ayres, Ibis*, 1887, p. 53; *Büttik. Notes Leyd. Mus.* 1889, p. 69.

Adult male. Back, scapulars, wing-coverts, and rump dusky olive, the upper tail-coverts more golden and tipped with yellow, the whole being covered with narrow crescentic or bar-like markings of dull white, the upper tail-coverts sometimes tinged with red; quills dusky brown, spotted with white on both webs; the outer webs of the secondaries and of the primaries at the base washed with golden olive, this colour tinging the white spots; shafts golden yellow; tail dark brown, the feathers having narrow bar-like spots of buffy white on both webs, the latter being washed down each side of the shafts with golden olive; shafts golden yellow; nasal plumes dull white tipped with black; sinciput black spotted with white, posterior half of the crown and the occiput scarlet; nape and hind neck black; sides of the face and neck, chin and throat white, the side of the neck crossed by dusky bars; a short auricular stripe of black, and a second broad black stripe bordering the throat and fore neck and quite separated from the former by a stripe of white; chest and entire underparts and under tail-coverts dull white barred with dusky, with an olivaceous tinge, the under tail-coverts tinged with yellow; under wing-coverts and axillaries white or slightly yellowish, barred with dusky brown or black: "bill dusky, with the under mandible lighter; irides bright garnet colour; tarsi and feet pale dingy olive-green" (*T. Ayres*). Total length 8·5 inches, culmen 1·45, wing 5·2, tail 2·7, tarsus 0·85; toes (without claws)—outer anterior 0·62, outer posterior 0·72, inner anterior 0·45, inner posterior 0·35.

* Founded upon specimens of *Th. namaquus* which have the auricular stripe more or less bordering the ear-coverts posteriorly, and described by me in the 'Ibis,' for 1883, p. 410, as *Mesopicus schoensis*. Further examination of specimens shows me that *M. decipiens* is synonymous with *Thripias namaquus*, as the supposed differences are not constant, nor confined to any geographical area.

Young male. Resembles the adult male, but is duller in colour; the shafts of the quills are nearly white; the barring on the tail more distinct, and the dusky bars on the underparts narrower: "iris pinkish brown" (*on label*).

Adult female. Has no red upon the posterior half of the crown nor on the occiput, these parts being black, the forehead and crown spotted with white. Total length 8·5 inches, culmen 1·4, wing 5·4, tail 2·7, tarsus 0·75.

Hab. Southern and Central Africa; on the east, from Swazi-Land and the Transvaal north to Zanzibar and probably into Masai-Land, and on the west, from Damara-Land north into Angola as far as Galungo.

a. ♀ ad. sk.	Zambesi (*Dr. Miller*).	Tweeddale Coll.
b, c. ♂ ad. sk.	Ugogo, Zambesi (*Sir J. Kirk*).	Shelley Coll.
d, e. ♂ ♀ ad. sk.	Tette, Zambesi.	Livingstone Exped.
f. ♀ ad. sk.	Makalaka, Zambesi (*Dr. Bradshaw*).	Shelley Coll.
g, h. ♂ ♀ ad. sk.	Ramaqueban River, July (*F. Oates*).	C. G. & W. E. Oates, Esqrs. [P.].
i. ♂ ad. sk.	Motlontse River, nr. Tati, Aug. (*F. Oates*).	C. G. & W. E. Oates, Esqrs. [P.].
k. ♀ ad. sk.	Transvaal (*Ayres*).	Sharpe Coll.
l, m. ♂ ♀ ad. sk.	Transvaal, July (*T. E. Buckley*).	Shelley Coll.
n. ♂ ad. sk.	Swazi-Land, July (*T. E. Buckley*).	Shelley Coll.
o, p. ♂ ♀ ad. sk.	Ondonga, Damara-Land, Jan. (*C. J. Andersson*).	Sharpe Coll.
q. ♂ ad. sk.	Otjimbinque, March (*C. J. Andersson*).	Tweeddale Coll.
r. ♂ ad. sk.	River Okavango, Damara-Land, May (*C. J. Andersson*).	Tweeddale Coll.
s. ♀ imm. sk.	Ombongo, Damara-Land, July (*C. J. Andersson*).	Shelley Coll.
t. ♀ ad. sk.	Rio Chimba, Benguella (*Anchieta*).	Sharpe Coll.
u. ♀ ad. sk.	Loanda, Sept.	J. J. Monteiro, Esq. [C.].

2. Thripias schoensis.

Picus (Dendrobates) schoensis, *Rüpp. Mus. Sencken.* iii. p. 124 (1842); *Finsch & Hartl. Vög. Ostafr.* p. 509 (1870).

Dendrobates schoensis, *Rüpp. Syst. Uebers.* 1845, p. 88, pl. xxxiii.; *Gray, Gen. B.* ii. p. 437 (1849); *Bp. Consp. Gen. Av.* i. p. 124 (1850); *Heugl. Syst. Uebers.* 1856, p. 47.

Dendropicos schoensis, *Malh. Mém. Acad. Metz*, 1849, p. 339.

Dendropicus schoensis, *Bp. Consp. Volucr. Zygod.* p. 9 (1854); *Malh. Picidæ*, i. p. 195, pl. xlii. fig. 8 (1861); *Gray, List Picid. Brit. Mus.* p. 70 (1868); *id. Hand-l. B.* ii. p. 190, no. 8665 (1870); *Dubois, Bull. Mus. R. d'Hist. Nat. Belg.* 1886, p. 147.

Campethera schoensis, *Reichenb. Scans. Picinæ*, p. 422, pl. dclxxii. figs. 4447–4448 (1854).

Thripias schoensis, *Cab. & Heine, Mus. Hein.* iv. p. 121 (1863).

Picus schoensis, *Sundev. Consp. Av. Picin.* p. 42, no. 123 (1866); *Fischer & Reichenow, J. f. O.* 1879, p. 343; *Hartl. Abhandl. nat. Ver. Brem.* 1882, p. 207.
Picus schoanus, *Heugl. Orn. N.O.-Afr.* p. 809 (1871).
Mesopicus schoensis, *Sharpe, Journ. Linn. Soc.* xvii. p. 430 (1884).

Adult male. Differs from *Th. namaquus* in having the chest and upper part of the breast brownish black, spotted with white. There is scarcely any olive tinge either above or below, the back being much darker and the barring below also blacker; the black stripe which runs backwards from the eye unites with the black stripe which borders the throat and fore neck and encircles these by its junction with the black chest. Total length 9 inches, culmen 1·5, wing 5·3, tail 2·6, tarsus 0·87; toes (without claws)—outer anterior 0·62, outer posterior 0·7, inner anterior 0·6, inner posterior 0·35.

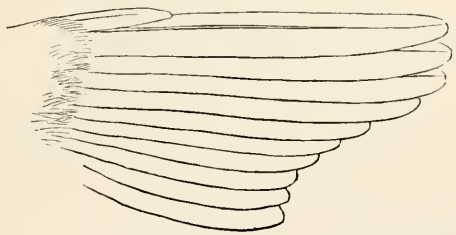
Adult female. Wants the red on the hind part of the crown and on the occiput, these being uniform black, like the hind neck. In other respects it resembles the adult male. Total length 9 inches, culmen 1·42, wing 5·25, tail 2·6, tarsus 0·85.

Hab. Shoa, and west into the Niam-Niam Country (*Bohndorff*) and Wakkala (*Emin Pacha*), and east into Somali-Land.

a. ♀ ad. sk.	Somali-Land.	E. Lort Phillips, Esq. [P.].
b, c. ♂ ♀ ad. sk.	Muscharek, Gazelle River, Nov.	F. Bohndorff [C.].

22. IYNGIPICUS.

	Type.
Yungipicus, *Bp. Consp. Volucr. Zygod.* no. 67 (1854) ..	I. hardwickii.
Bæopipo, *Cab. & Heine, Mus. Hein.* iv. p. 54 (1863) ..	I. auritus.
Ipophilus, *Cab & Heine, Mus. Hein.* iv. p. 113 (1863)..	I. obsoletus.



Wing of *Iyngipicus auritus.*

Range. Throughout India and Ceylon; Assam; the Burmese Provinces, Siam, and Cochin China; through the Malayan Peninsula into Sumatra, Java, Lombock, and Flores, Borneo, Celebes, the Sulu and the Philippine Isles; north into China, Hainan, and Formosa;

the Loo Choo Islands, Corea, Eastern Siberia, apan, and into the Kurile Islands. Appearing again in Africa, from Senaar, through Kordofan, south to Bongo and Langomeri, and west into Senegambia *.

Key to the Species †.

A. Above black and white, the white uniform or barred.
  a'. With red occipital band; upper tail-coverts and four central rectrices uniform black ..... *semicoronatus* ♂ ad., [p. 312.
  b'. With a longitudinal red stripe on each side of the occiput.
    a''. Upper tail-coverts and four central rectrices uniform black.
      a'''. White superciliary stripe united with the white on the side of the neck.
        *a*⁴. Underparts striated.
          *a*⁵. Lateral rectrices with faint dusky bars.
            *a*⁶. Smaller: upper back brownish black; the lower back as well as the rump more or less barred; with a less conspicuous white patch on the side of the neck and on the wing-coverts ..... *scintilliceps* ♂ ad., p. 313.
            *b*⁶. Larger: upper back intense black; remainder of back and the rump white, the latter more or less barred; with very conspicuous white patch on the side of the neck and on the wing-coverts ..... *doerriesi* ♂ ad., p. 314.
          *b*⁵. Lateral rectrices distinctly barred with black.
            *c*⁶. Larger: length 6 inches, wing 3·7; middle back partially, the lower back and rump distinctly barred ..... *kaleensis* ♂ ad., p. 315.
            *d*⁶. Smaller: length 5·2 inches, wing 3·47; the whole of the white of the back and rump distinctly barred ..... *pygmæus* ♂ ad., p. 316.
        *b*⁴. Underparts spotted; middle and lower back, also the rump, white, the latter barred ..... *wattersi* ♂ ad., p. 317.

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* The range in Africa is that of *I. obsoletus*, the generic characters of which are those of an *Iyngipicus*.

† The females of the species comprised in this genus differ only from the males in the absence of red on the head, in the form of either a stripe on the side of the occiput, or of an occipital band.

b'''. White superciliary stripe not joining the white on the side of the neck.
*c*⁴. Top of the head brown; outer webs of the primaries with not more than five spots ..... *kizuki* ♂ ad., p. 318.
*d*⁴. Top of the head ashy grey; with six spots on the outer webs of some of the primaries ..... *seebohmi* ♂ ad., p. 319.
*e*⁴. Top of the head nearly black; ground-colour of the underparts fulvescent, contrasting with the pure white chin and throat; with not more than four spots on the outer webs of the primaries .... *nigrescens* ♂ ad., p. 320.
b''. Upper tail-coverts barred with white or with white squamate markings.
c'''. The four central rectrices uniform black.
*f*⁴. Chest and breast conspicuously washed with reddish orange; outer webs of primaries spotted ..... *aurantiiventris* ♂ ad., [p. 320.
*g*⁴. Chest and breast without any tinge of orange ..... *pumilus* ♂ ad., p. 321.
d'''. Central rectrices as well as the lateral ones spotted.
*h*⁴. Underparts striated.
*c*⁵. Crown and occiput bordered with black; nape black.
*e*⁶. Crown ashy grey.
*a*⁷. Ear-coverts rufescent brown; malar stripe dusky ..... *canicapillus* ♂ ad., p. 322.
*b*⁷. With blackish-brown ear-coverts and a blackish stripe bordering the throat and fore neck ..... *picatus* ♂ ad., p. 324.
*f*⁶. Crown dark brown.
*c*⁷. Underparts clearly striated.
*a*⁸. Larger: with four spots on the central rectrices . *grandis* ♂ ad., p. 325.
*b*⁸. Smaller: with not more than three spots on the central rectrices ..... *auritus* ♂ ad., p. 326.
*d*⁷. Underparts faintly striated . *nanus* ♂ ad., p. 327.
*d*⁵. Crown and occiput not bordered with black; nape not black.
*g*⁶. Top of the head, nape, and ear-coverts cinnamon-brown .... *hardwickii* ♂ ad., p. 328.
*h*⁶. Top of the head, nape, and ear-coverts dark brown ..... *peninsularis* ♂ ad., p. 331.
*i*⁴. Underparts uniform, or nearly so, in adult, more striated in the young . *gymnophthalmus* ♂ ad., [p. 330.
e'''. Tail black, narrowly barred with buffy white; rump white, spotted with black; throat and chest spotted. *maculatus* ♂ ad., p. 333.
c'. With a transverse spot of red on each side of the occiput, but not forming a complete band; tail pale buffy brown, barred with black; rump uniform pale buff ..... *fulvifasciatus* ♂ ad., [p. 333.

B. Above olive-brown, striped or barred with white.
  d'. Larger: with complete occipital band of red, this colour also bordering the crown; a white superciliary stripe running down to the side of the nape which is dark olive-brown; back striped with white; tail uniform ..... *ramsayi* ♂ ad., p. 334.
  e'. Smaller: with red occipital band interrupted in the middle, but extending to behind the ear-coverts; superciliary stripe not running backwards beyond the middle of the ear-coverts; nape white; back and tail barred ..... *temminckii* ♂ ad., p. 335.
C. Above, including scapulars, umber-brown, the rump and upper tail-coverts (only) barred with dull white; with red occipital band.. *obsoletus* ♂ ad., p. 336.

1. Iyngipicus semicoronatus.

Picus pygmæus (old bird), *Blyth, J. A. S. Beng.* xiv. p. 197 (1845, *non Vigors*).

Picus semicoronatus, *Malherbe, Bull. Soc. d'Hist. Nat. Metz*, 1848, p. 21; *id. Picidæ*, i. p. 148, pl. xxxiv. fig. 8 (1861); *Sundev. Consp. Av. Picin.* p. 27, no. 76 (1866); *Gray, List Picidæ Brit. Mus.* p. 40 (1868); *id. Hand-l. B.* ii. p. 184, no. 8584 (1870).

Picus rubricatus, *Blyth, J. A. S. Beng.* xviii. p. 804 (1849); *id. Cat. B. Mus. As. Soc.* p. 63, no. 299 (1849); *Reichenb. Scans. Picinæ*, p. 373 (1854).

Yungipicus semicoronatus, *Bp. Consp. Volucr. Zygod.* p. 8 (1854).

Picus meniscus*, *Malh. Picidæ*, i. p. 151, pl. xxxv. figs. 2, 3, 4 (1861); *Gray, List Picid. Brit. Mus.* p. 41 (1868); *id. Hand-l. B.* ii. p. 184, no. 8586 (1870); *Sundev. Consp. Av. Picin.* p. 28 (1866).

Yungipicus rubricatus, *Jerd. B. Ind.* i. p. 276 (1862); *Bulger, Ibis*, 1869, p. 156; *Jerd. Ibis*, 1872, p. 8; *Hume & Oates, Str. F.* 1875, p. 60; *Hume, Str. F.* 1879, p. 87.

Bæopipo semicoronata, *Cab. & Heine, Mus. Hein.* Th. iv. p. 54 (1863).

Bæopipo menisca, *Cab. & Heine, Mus. Hein.* Th. iv. p. 55 (1863).

Iyngipicus meniscus, *Harg. Ibis*, 1882, p. 26 (*ex Malh.*).

Iyngipicus semicoronatus, *Harg. Ibis*, 1882, p. 25; *Gould, B. Asia*, vi. pl. xxvi., ♂ ♀ (1883); *Hume, Str. F.* xi. p. 59 (1888).

Adult male. Upper parts and wings black, the middle and lower back, rump, and scapulars barred with white, the greater wing-

* *Picus meniscus* of Malherbe was founded upon a bird with a spotted tail, but otherwise resembling *I. semicoronatus*. There are, however, in the collection four specimens of the latter species, two from the N. Khasia Hills, one from Shillong, and one from Sikhim, which have the central tail-feathers more or less spotted. In almost all the species or subspecies of *Iyngipici* there are found individuals differing slightly from typical examples (*i. e.* species having, as a rule, the central tail-feathers uniform, have these occasionally spotted, and *vice versâ*). It is therefore very probable that it was from such a specimen that Malherbe's *P. meniscus* was described, and the above-mentioned birds being undoubted *I. semicoronatus*, I cannot regard Malherbe's species as a valid one.

coverts and the quills on both webs spotted with the same: shafts blackish brown; upper tail-coverts and the four central tail-feathers uniform black, the lateral tail-feathers dusky brown, margined and barred with buffy white; shafts blackish brown; forehead and crown ashy brown; occipital band scarlet; nape and hind neck black; nasal plumes and lores buffy white; face fulvescent, the side of the neck and a superciliary stripe extending to it white, the whole more or less streaked with blackish brown, the auricular region having a broad stripe of this colour; the malar region dusky; chin and upper throat white; the whole of the under surface of the body fulvescent, striated with blackish brown; the under tail-coverts fulvescent, with broader brown central stripes; under wing-coverts and axillaries fulvescent white, the former spotted with black: "bill plumbeous; irides red; feet brown" (*Jerdon*). Total length 4·9 inches, culmen 0·65, wing 3·3, tail 1·75, tarsus 0·55; toes (without claws)—outer anterior 0·4, outer posterior 0·5, inner anterior 0·35, inner posterior 0·2.

Adult female. Differs from the adult male in wanting the red occipital band. Total length 4·8 inches, culmen 0·62, wing 3·3, tail 1·65, tarsus 0·6.

Hab. Sikhim, Bhotan, Assam (Khasia and Naga Hills).

a. ♂ ad.; *b*, *c*. ♀ ad. sk.	Native Sikhim, March, Oct. (*L. Mandelli*).	Hume Coll.
d–*p*. ♂ ad. et imm.; *q*–*x*. ♀ ad. sk.	Sikhim, Jan., Feb., March, June, Aug., Oct., Nov. (*L. Mandelli*).	Hume Coll.
y. ♂ ad.; *z*, *a'*. ♀ ad. et imm. sk.	Darjeeling, March.	Hume Coll.
b'. ♂ ad. sk.	Darjeeling.	Hume Coll.
c', *d'*. ♂ ad.; *e'*, *f'*, *g'*. ♀ ad. sk.	Bhotan Doars, Jan., Feb., April (*L. Mandelli*).	Hume Coll.
h', *i'*. ♂ ♀ ad. sk.	Khasia Hills (*T. C. Jerdon*).	Gould Coll.
k', *l'*. ♂ ad. et imm.; *m'*, *n'*. ♀ ad. sk.	N. Khasia Hills, Nov., Jan. (*A. W. Chennell*).	Tweeddale Coll.
o'. ♀ ad. sk.	Naga Hills (*H. H. Godwin-Austen*).	Tweeddale Coll.
p'. ♂ ad. sk.	Jeypore, Assam.	Tweeddale Coll.
q'. ♂ imm. sk.	Shillong, July 1877 (*J. Cockburn*).	Hume Coll.

2. Iyngipicus scintilliceps.

Picus sp., *Swinhoe, Ibis*, 1861, p. 340.

Picus scintilliceps, *Swinhoe, Ibis*, 1863, p. 96; *Sundev. Consp. Av. Picin.* p. 27 (1866); *Gray, List Picid. Brit. Mus.* p. 41 (1868); *id. Hand-l. B.* ii. p. 183, no. 8577 (1870).

Bæopipo scintilliceps, *Cab. & Heine, Mus. Hein.* Th. iv. p. 55 (1863).

Picus canifrons, *Sundev. Consp. Av. Picin.* p. 26 (1866).

Yungipicus scintilliceps, *Swinhoe, P. Z. S.* 1871, p. 392; *David & Oust. Ois. Chine*, p. 50 (1878).

Iyngipicus scintilliceps, *Hargitt, Ibis*, 1882, p. 33; *Gould, B. Asia*, vi. pl. xxi. (1882); *Styan, Ibis*, 1887, p. 229.

Adult male. Upper back, scapulars, and upper tail-coverts brownish black, the middle and lower back as well as the rump white, the two latter more or less barred with black; wing-coverts and quills

brownish black, the median and the greater coverts partly white, this forming a conspicuous patch; both webs of quills spotted with white; shafts brownish black; the four central tail-feathers uniform brownish black, the next feather externally margined with brownish white; the two outer large feathers on either side more or less brownish white, with indistinct dusky brown bars on the apical portion; shafts black; top of the head ashy grey, the occiput, nape, and hind neck black; on the side of the occiput a stripe of scarlet; nasal plumes, lores, sides of the face and neck buffy white, the ear-coverts and a stripe behind pale umber-brown malar stripe dusky; chin and throat white; entire under surface of the body brownish white, slightly fulvescent, striped with black or brownish; the under tail-coverts brownish white with faint brown streaks; under wing-coverts and axillaries smoky white, the former with a conspicuous black patch and a few small spots of black: "iris red; bill horny bluish; feet bluish" (*David*). Total length 6 inches, culmen 0·67, wing 3·9, tail 2·2, tarsus 0·65; toes (without claws)—outer anterior 0·4, outer posterior 0·47, inner anterior 0·3, inner posterior 0·2.

Adult female. Wants the red stripe on the side of the occiput. Total length 6 inches, culmen 0·73, wing 3·85, tail 2·3, tarsus 0·67.

Examples from Ichang are intermediate between *I. scintilliceps* and *I. kaleensis*, having the tail resembling that of the former species, and the lower back and rump distinctly barred with black as in *I. kaleensis*.

Hab. China, from Pekin south to Foochow and west to Southern Kansu.

a. ♀ ad. sk.	Pekin (*A. David*).	Tweeddale Coll.
b, c. ♂ ad.; *d*. ♀ ad. sk.	Ichang, Jan. 1888.	Mr. Pratt [C.].

Subsp. *α*. Iyngipicus doerriesi.

Picus mitschelli (*non Malh.*), *Radde, Reis. Ost-Sibir.* p. 140 (1862); *Tacz. Bull. Soc. Zool. France*, 1876, p. 240.

Picus scintilliceps, *Tacz. Bull. Soc. Zool. France*, 1878, p. 139; *Bolau, Journ. f. Orn.* 1880, p. 131.

Iyngipicus doerriesi, *Hargitt, Ibis*, 1881, p. 398; *id. op. cit.* 1882, p. 35; *Gould, B. Asia*, vi. pl. xxii., ♂ ♀ (1882); *Tacz. P. Z. S.* 1888, p. 466.

Adult male. Resembles *I. scintilliceps*, but is larger and has the white of the plumage more developed, the middle and lower back being pure white; the black of the plumage is also more intense; the forehead and crown greyer, and the underparts less fulvescent: "iris brown" (*Doerries*). Total length 7·5 inches, culmen 0·8, wing 4·15, tail 2·5, tarsus 0·65; toes (without claws)—outer anterior 0·4, outer posterior 0·48, inner anterior 0·32, inner posterior 0·22.

Adult female. Resembles the adult male, but wants the scarlet stripe on the side of the occiput: "iris brown" (*Doerries*). Total length 7·5 inches, culmen 0·85, wing 4·1, tail 2·6, tarsus 0·63.

Hab. Island of Askold, East Siberia, and the adjacent portion of mainland, south into Corea.

a. ♂ ad. sk.	Island of Askold, November (*Dörries*).	Henry Seebohm, Esq. [P.]. (Type of species.)

Subsp. β. Iyngipicus kaleensis.

Picus kaleensis, *Swinhoe*, *Ibis*, 1863, p. 390; *Sundev. Consp. Av. Picin.* p. 26 (1866); *Gray*, *List Picid. Brit. Mus.* p. 38 (1868); *id. Hand-l. B.* ii. p. 183, no. 8565 (1870).
Dendrotypes nesiotis, *Cab. & Heine*, *Mus. Hein.* Th. iv. p. 49 (1863).
Yungipicus kaleensis, *Swinh. P. Z. S.* 1871, p. 392; *David & Oustalet*, *Ois. Chine*, p. 50 (1877).
Iyngipicus kaleensis, *Hargitt*, *Ibis*, 1882, p. 32.

Adult male. Resembles *I. scintilliceps*, but is smaller, and the white of the plumage is less developed; the middle back is partially and the lower back and rump are evenly and distinctly barred with black; the lateral tail-feathers are also very clearly barred with black, and the underparts are more fulvescent and have broader striations. "In October, bill light leaden grey, blackish towards the tip, and tinged with greenish yellow at basal half of lower mandible; irides reddish brown; legs greenish grey; claws same with pale bases" (*Swinhoe*). Total length 6 inches, culmen 0·77, wing 3·7, tail 2·05, tarsus 0·63; toes (without claws)—outer anterior 0·45, outer posterior 0·53, inner anterior 0·35, inner posterior 0·25.

Adult female. Wants the red stripe on the side of the occiput, but otherwise resembles the adult male. Total length 5·8 inches, culmen 0·75, wing 3·85, tail 2·15, tarsus 0·65.

Hab. The island of Formosa, and Eastern China, from Fokien south into the island of Hainan.

a, *b.* ♂ ad. et imm.; *c.* ♀ ad. sk.	Formosa.	Purchased.
d. ♀ ad. sk.	Tamsui, Dec. 1866 (*R. Swinhoe*).	Tweeddale Coll.
e. ♂ ad; *f.* ♀ imm. sk.	Fungshan, Dec., Jan. (*R. Swinhoe*).	Hume Coll.
g, *h.* ♂ ad. sk.	Fokien.	Gould Coll.
i. ♂ ad.; *k.* ♀ imm. sk.	Hainan, Feb. 1868 (*R. Swinhoe*).	Tweeddale Coll.

3. Iyngipicus pygmæus.

Picus pygmæus *, *Vigors*, *P. Z. S.* 1831, p. 44; *Blyth*, *J. A. S. Beng.* xiv. p. 197 (1845); *id. op. cit.* xvi. p. 466 (1847); *id. Ann. & Mag. Nat. Hist.* xx. p. 321 (1847); *id. Cat. B. Mus. As. Soc.* p. 63 (1849); *Bp. Consp.* i. p. 135 (1850); *Horsf. & Moore*, *Cat. B. E.I. Co. Mus.* ii. p. 676 (1856–58); *Reichenb. Scans. Picinæ*, p. 369,

* A careful search has revealed the type, which still exists in the collection (*cf.* Hargitt, Ibis, 1882, p. 22).

Taf. dcxxxvi. figs. 4232–33 (1854); *Malh. Picidæ*, i. p. 147, pl. xxxiv. figs. 5–7 (1861); *Gray, List Picid. Brit. Mus.* p. 41 (1868); *id. Hand-l. B.* ii. p. 183, no. 8576 (1870).

Dendrocopus moluccensis, *Hodgs. Icon. ined. in Brit. Mus., Passeres*, pl. 334, figs. 159, 160; *id. in Gray's Zool. Misc.* p. 85 (1844).

Picus moluccensis, *Gray, Gen. B.* i. p. 435 (1845, *non Gm.*).

Picus zizuki, *Gray, Cat. Mamm. &c. Nepal pres. Hodgs.* p. 116 (1846).

Picus mitchelli, *Malh. Rev. et Mag. de Zool.* 1849, p. 530; *Bp. Consp. Gen. Av.* i. p. 136 (1850); *Reichenb. Scans. Picinæ*, p. 173 (1854); *Malh. Picidæ*, i. p. 142, pl. xxxii. figs. 1, 2 (1861); *Sundev. Consp. Av. Picin.* p. 27 (1866); *Gray, List Picid. Brit. Mus.* p. 40 (1868); *id. Hand-l. B.* ii. p. 183, no. 8574 (1870).

Picus trisulensis, *Licht. in Mus. Berol.*

Picus nepalensis, *Licht. in Mus. Berol.*

Yungipicus mitchelli, *Bp. Consp. Volucr. Zygod.* p. 8 (1854).

Yungipicus scintilla, *Bp. Consp. Volucr. Zygod.* p. 8 (1854, *ex Natt. MSS. in Mus. Vindob.*).

Yungipicus pygmæus, *Bp. Consp. Volucr. Zygod.* p. 8 (1854); *Jerd. B. Ind.* i. p. 277 (1863); *Gray, Cat. Mamm. &c. Nepal pres. Hodgs.* p. 63 (1863); *Brooks, Str. F.* 1875, p. 232; *Hume, op. cit.* 1879, p. 87; *Scully, tom. cit.* 1879, p. 247.

Bæopipo pygmæus, *Cab. & Heine, Mus. Hein.* Th. iv. p. 56 (1863).

Bæopipo mitchelli, *Cab. & Heine, Mus. Hein.* Th. iv. p. 55 (1863).

Iyngipicus pygmæus, *Hargitt, Ibis*, 1882, p. 30.

Adult male. Upper parts, also wings and their coverts, black, the lower back and rump barred with white; the median and the greater wing-coverts and both webs of the quills spotted with white, the shafts of the latter being black; upper tail-coverts and the four central tail-feathers uniform black, the lateral rectrices browner and either barred or margined with buffy white; shafts brown with black tips; forehead and crown smoky brown, the outer edge of the crown, also the occiput and nape, black; nasal plumes and sides of the face and neck white, the ear-coverts sepia-brown, with a black stripe behind, and a faint dusky malar stripe; chin and throat white; the under surface of the body fulvescent, narrowly striped with sepia-brown; under tail-coverts slightly fulvescent, broadly streaked and varied with brown; under wing-coverts buffy white spotted with black, the axillaries white. "In December, bill horny-grey; irides dark red; feet dingy green" (*Scully*). Total length 5·2 inches, culmen 0·67, wing 3·47, tail 1·8, tarsus 0·6; toes (without claws)—outer anterior 0·35, outer posterior 0·45, inner anterior 0·3, inner posterior 0·22.

Adult female. Wants the scarlet stripe on the side of the occiput. Total length 5 inches, culmen 0·6, wing 3·4, tail 1·7, tarsus 0·55.

Hab. Himalayan Provinces, west to Masuri, and extending eastward into Bengal.

a. ♀ ad. sk.	Himalayas.	Zoological Society. (Type of species.)
b, c, d. ♂ ad. sk.	N.W. India.	Pinwill Coll.
e, f. ♂ ad.; *g, h.* ♀ ad. sk.	Masuri, Aug., Sept., Oct.	Hume Coll.

i. ♀ ad. sk.	Dehra Dhoon, Dec. 2, 1870.	Hume Coll.
k, l. ♂ ♀ ad. sk	Kalsi, Sept., Jan.	Hume Coll.
m. ♂ ad. sk.	Patlee Dhoon, Gurhwal, Jan. 23, 1870.	Hume Coll.
n. ♀ ad. sk.	Sansoo, May 29, 1874 (*W. E. Brooks*).	Hume Coll.
o. ♀ ad. sk.	Naini Tal, Sept. 25, 1866.	Hume Coll.
p. ♀ ad. sk.	Bursotee on Ramgunga, Jan. 28, 1870.	Hume Coll.
q. ♂ ad. sk.	Nepal Valley, Dec. 24, 1877 (*J. Scully*).	Hume Coll.
r, s, t. ♂ ad.; *u, v.* ♀ ad. sk.	Nepal.	Hodgson Coll.
w, x. ♂ ♀ ad.; *y.* ♀ imm. sk.	Nepal (*B. H. Hodgson*).	India Museum.
z. ♂ imm. sk.	Nepal (*B. H. Hodgson*).	Gould Coll.
a', b'. ♂ ♀ ad. sk.	Bengal (*Blagrave*).	India Museum.

(Types of *P. mitchelli*. *Cf.* Horsfield & Moore, Cat. B. Mus. E.I. Co. p. 676.)

4. Iyngipicus wattersi.

Iyngipicus wattersi, *Salvad. & Gig., Atti della R. Accad. Sc. Tor.* xx. p. 825 (1885).

Adult male. Upper back and scapulars black, with a few white stripes; the remainder of the back and rump white, the latter with a trace of black barring; wings and their coverts black, the median and the greater series, likewise both webs of the quills, spotted with white; shafts of the latter black; upper tail-coverts and the six central rectrices black without spots; the lateral rectrices black, more or less barred with buffy white; shafts black, brownish at the base; nasal plumes buffy white, tipped with black; forehead pale smoky brown, the crown ashy grey; outer edge of the crown, the occiput, nape, and hind neck black; upon the side of the occiput an orange-scarlet stripe; sides of the face and neck white, the ear-coverts umber-brown, and behind these a broad brownish-black stripe; malar stripe dusky; chin and throat dusky, striped with whitish; under surface of the body dull white, becoming browner posteriorly and on the under tail-coverts; the underparts are apparently spotted with black, but the feathers are in reality broadly striped, the stripe being contracted in the centre and the base hidden by the feathers above, the exposed part has the character of a spot; thighs barred; under tail-coverts with an almost obsolete subapical brown spot; under wing-coverts and axillaries white, the edge of the wing black. Total length 6 inches, culmen 0·7, wing 3·7, tail 1·9, tarsus 0·7; toes (without claws)—outer anterior 0·48, outer posterior 0·53, inner anterior 0·35, inner posterior 0·28.

Hab. Island of Formosa, the exact locality not known.

5. Iyngipicus kizuki.

Picus kizuki, *Temm. Pl. Col.* iv. livr. 99, nec pl. 585 (1836); *Bp. Consp.* i. p. 135 (1850); *Reichenb. Scans. Picinæ*, p. 370, Taf. dexxxvi. figs. 4236–4238 (1854); *Gray, List Picid. Brit. Mus.* p. 41 (1868); *id. Hand-l. B.* ii. p. 184, no. 8585 (1870).

Picus kisuki, *Temm. Tabl. Méth.* p. 64 (1836); *id. & Schleg. Faun. Japon.* p. 74, Taf. xxxvii. (1850); *Malh. Picidæ*, i. p. 154, pl. xxxvi. figs. 1, 2 (1861); *Sundev. Consp. Av. Picin.* p. 28 (1866); *Wall. Isl. Life*, p. 370 (1880).

Picus zizuki, *Gray, Gen. B.* ii. p. 435 (1845); *Jerd. B. Ind.* i. p. 279 (1862).

Yungipicus kisuki, *Bp. Consp. Volucr. Zygod.* p. 8 (1854); *Stejn. Proc. U. S. Nat. Mus.* 1886, p. 120.

Picus kogera, *Malh. Picidæ*, i. p. 154 (1861, *MSS. ex spec. olim in Mus. Zool. Soc.*).

Bæopipo kisuki, *Cab. & Heine, Mus. Hein.* Th. iv. p. 60 (1863).

Iyngipicus kizuki, *Harvitt, Ibis*, 1882, p. 36 (pt.); *id. op. cit.* 1884, p. 100.

Picus (Iyngipicus) kizuki, *Blak. Amend. List B. Jap.* pp. 25 & 45 (1884).

Adult female. Above, also the wings and their coverts, blackish brown, the middle and lower back, rump, and scapulars barred with white; the median and the greater coverts, likewise both webs of the quills, spotted with white, the spots on the outer webs of the latter not exceeding five, the shafts of the quills dark brown; upper tail-coverts and the four central tail-feathers black, the next feather having the inner web black and the outer web buffy white, the remaining feathers barred black and buffy white; shafts black; nasal plumes smoky white, tipped with black; top of the head ashy brown, tinged with rufous; lores white; sides of the face and neck brown, with a white spot above the eye, a patch of white on the side of the neck, and a white stripe separating the ear-coverts from the black malar stripe; the sides of the throat and fore neck broadly striped with brown; chin and throat pure white; fore neck and middle of the chest, also the under surface of the body and under tail-coverts, fulvescent white, more dusky posteriorly; the body from the breast, inclusive, downwards striped with brown, the under tail-coverts spotted with the same; under wing-coverts white, spotted with brownish black, the axillaries smoky white. Total length 4·8 inches, culmen 0·6, wing 3·22, tail 1·82, tarsus 0·6; toes (without claws)—outer anterior 0·35, outer posterior 0·42, inner anterior 0·3, inner posterior 0·2.

Adult male. Differs from the adult female in having a red stripe on the side of the occiput.

Immature female. Is browner above and on the wings; the top of the head is browner, and the brown which borders the chest and breast is less rufescent; the chin, throat, and under surface of the body are duller, but similarly striped with brown, the flanks and thighs, however, having confluent spots of brown, in the form of a stripe.

Hab. Japan (island of Kiushiu), and, according to Dr. Stejneger, the southern part of Hondo.

a, b. ♂ ad.; *c.* ♀ ad. sk.	Japan.	Gould Coll.
d. ♀ ad. sk.	Kobe.	Tweeddale Coll.
e. ♀ ad. sk.	Nagasaki.	Tweeddale Coll.

Subsp. *α.* Iyngipicus seebohmi.

Picus kizuki (*non Temm.*), *Swinh. Ibis*, 1875, p. 451; *Blakiston & Pryer, op. cit.* 1878, p. 229; *Seebohm, op. cit.* 1879, p. 29.
Picus kisuki, *Blakist. Ibis*, 1862, p. 325; *id. & Pryer, Trans. As. Soc. Jap.* x. p. 134 (1882).
Iyngipicus kizuki, *Hargitt, Ibis*, 1882, p. 36.
Iyngipicus seebohmi, *Hargitt, Ibis*, 1884, p. 100; *Tacz. P. Z. S.* 1888, p. 467.
Picus (Iyngipicus) seebohmi, *Blakist. Amend. List B. Jap.* pp. 13 & 45 (1884).
Yungipicus seebohmi, *Stejn. Proc. U. S. Nat. Mus.* 1886, p. 123.

Adult male. Resembles *I. kizuki*, but may be distinguished by the very much greater amount of white in the plumage; the top of the head being ashy grey instead of brown; the ground of the entire under surface of the body pure white, with a very distinct rufous-brown gorget, and the outer webs of the outer primaries having six spots of white. Total length 5·3 inches, culmen 0·65, wing 3·3, tail 1·95, tarsus 0·62; toes (without claws)—outer anterior 0·4, outer posterior 0·45, inner anterior 0·33, inner posterior 0·23.

Nestling, male. Has the top of the head bluish ashy, the forehead spotted with smoky white; the under surface of the body white, without any yellow tinge on the chest, and the striations dense; the stripe on the side of the occiput exists, as in the adult male, but it is of a more orange-scarlet.

Adult female. Wants the red stripe on the side of the occiput, and has the chest and upper breast less rufous brown. Total length 5·1 inches, culmen 0·6, wing 3·47, tail 2, tarsus 0·58.

Hab. Japan (the Main Island and Yezo); on the Continent, in Ussuri and Corea.

a. ♀ ad. sk.	Ussuri.	St. Petersburg Museum [P.].
b. ♂ ad. sk.	Japan (*Pryer*).	Tweeddale Coll.
c, d. ♂ ♀ ad. sk.	Yokohama.	H. Pryer, Esq. [C.].
e, f. ♂ imm.; *g, h.* ♀ ad. et imm. sk.	Yokohama (*H. Pryer*).	R. Bowdler Sharpe, Esq. [P.].

Subsp. *β.* Iyngipicus nigrescens. (Plate V.)

Iyngipicus kizuki nigrescens, *Seebohm, Ibis*, 1887, p. 177.
Yungipicus nigrescens, *Stejn. Zeitsch. gesamm. Orn.* 1887, p. 171.

Adult female. Differs from *I. kizuki* in being smaller and very much blacker, having the top of the head, occiput, and nape blackish brown; the ear-coverts, band across the side of the neck, and

the extreme upper back very dark brown; the malar stripe blacker; the white spots on the wings smaller, those on the outer webs of the outer primaries four in number, and the bars on the wings, also the bars on the back, narrower; the striations on the underparts blacker. Total length 5·3 inches, culmen 0·63, wing 3·2, tail 1·95, tarsus 0·55; toes (without claws)—outer anterior 0·37, outer posterior 0·45, inner anterior 0·3, inner posterior 0·22.

Adult male. Differs from the adult female in having a red stripe on the side of the occiput. Total length 4·8 inches, culmen 0·62, wing 3·03, tail 1·6, tarsus 0·5.

Hab. Loo Choo Islands (Naha).

a. ♀ ad. sk. Great Loo Choo Island (*H. Pryer*). Henry Seebohm, Esq. [P.]. (Type of species.)

6. Iyngipicus aurantiiventris.

Picus (Bæopipo) aurantiiventris, *Salvad. Atti R. Accad. Sci. Torino*, iii. p. 524 (1868).

Iyngipicus aurantiiventris, *Salvad. Uccelli di Borneo*, p. 41, tav. iv. fig. 2 (1874); *Hargitt, Ibis*, 1882, p. 29; *Gould, B. Asia*, vi. pl. xxiii., ♂ ♀ (1882).

Yungipicus aurantiiventris, *Sharpe, Ibis*, 1879, p. 240.

Iyngopicus aurantiiventris, *Sharpe, P. Z. S.* 1881, p. 792.

Adult male. Back and rump broadly barred black and white; upper tail-coverts black, with a broad intermarginal squamate marking of white; scapulars, wing-coverts, and quills black, the scapulars barred with white at the tip, the greater coverts and the quills on both webs spotted with white; shafts black; the six central tail-feathers uniform and black or brownish, the lateral ones dark brown, margined or barred with buffy white; shafts clear brown with black tips; top of the head ashy grey, the outer edge of the crown, the occiput, nape, and hind neck black; upon the side of the occiput a streak of scarlet: sides of the face and neck, throat, and fore neck white, the malar region and front of neck broadly striped with dusky brown; ear-coverts dark brown, with a broad black stripe behind; under surface of the body and under tail-coverts fulvescent, the chest and breast washed with orange or reddish, and the whole striped with brownish black; under wing-coverts and axillaries white, the former spotted and varied with black: "irides bluish white" (*Doria*). Total length 5·3 inches, culmen 0·72, wing 3·15, tail 1·2, tarsus 0·57; toes (without claws)—outer anterior 0·4, outer posterior 0·47, inner anterior 0·33, inner posterior 0·2.

Adult female. Differs from the adult male in the absence of the scarlet feathers on the side of the occiput, and in having the underparts less rich in colour. Total length 5·4 inches, culmen 0·67, wing 3·1, tail 1·4, tarsus 0·57.

Hab. Borneo, probably confined to the northern part of the island.

a. ♂ imm. sk.	Sarawak, Sept. 20, 1877 (*H. Everett*).	Hume Coll.
b. ♂ ad. sk.	Sarawak.	H. Everett, Esq. [C.].
c. ♀ ad. sk.	Matang, May 1870.	Gould Coll.
d, e. ♂ ♀ ad. sk.	Paku, Oct., Nov.	H. Everett, Esq. [C.].
f. ♀ ad. sk.	Lumbidan.	Governor Ussher [C.].
g. ♀ ad. sk.	Labuan.	Hon. Hugh Low [C.].
h. ♀ ad. sk.	Elopura.	Rev. H. F. Frere [P.].

7. Iyngipicus pumilus.

Iyngipicus pumilus, *Hargitt, Ibis*, 1881, p. 599; *id. op. cit.* 1882, p. 37; *Salvad. Ann. Mus. Civ. Stor. Nat. Genova*, 1888, p. 565.
Picus pumilus, *Oates, B. Brit. Burm.* ii. p. 37 (1883).

Adult male. Above, including scapulars and upper tail-coverts, barred black and white; wings and their coverts black, both webs of the quills, also the median and the greater coverts, spotted with white; shafts of quills black; tail black, the four central feathers uniform, the next one spotted with white on the outer web, the lateral feathers barred with white on both webs; shafts black, with brown bases; nasal plumes buffy white; forehead and crown ashy grey; outer edge of crown, the occiput, nape, and hind neck black, with a scarlet stripe upon the side of the occiput; lores and sides of the face and neck white, the ear-coverts brown with a broad black stripe behind; the malar region dusky, with a blackish-brown stripe on the side of the throat and fore neck; chin and throat pure white, with a few dusky spots; fore neck and chest white, the remaining underparts more fulvescent, the whole (except the flanks and thighs which are spotted) being striped with black; under tail-coverts dull ochreous white spotted with brown; under wing-coverts and axillaries white, the former spotted with black. Total length 4·85 inches, culmen 0·52, wing 2·78, tail 1·3, tarsus 0·55; toes (without claws)—outer anterior 0·35, outer posterior 0·42, inner anterior 0·28, inner posterior 0·17.

Adult female. Wants the scarlet stripe on the side of the occiput. Total length 4·85 inches, culmen 0·55, wing 2·78, tail 1·25, tarsus 0·53.

Hab. Tenasserim, and Malayan Peninsula south to Kossoum; north to Rangoon, South Pegu.

a. ♂ ad. sk.	Elephant Point, Rangoon, Dec. 31, 1875 (*J. Armstrong*).	Hume Col
b. ♂ imm. sk.	S. Tenasserim, March 24, 1877.	Tweeddale Coll.
c, d. ♂ ad.; *e, f.* ♀ ad. sk.	Tavoy, April 1878 (*W. Davison*).	Hume Col
g. ♂ ad. sk.	Mergui, Nov. 6, 1874 (*W. Davison*).	Hume Coll.

h. ♂ imm. sk.	Malewoon, April 24, 1875 (*W. Davison*).	Hume Coll.
i. ♀ ad.; *k.* ♂ imm. sk.	Kossoum, May 30, 1879 (*J. Darling*).	Hume Coll.

8. Iyngipicus canicapillus.

Picus canicapillus, *Blyth, J. A. S. Beng.* xiv. p. 197 (1845), xv. p. 14 (1846), xvi. p. 467 (1847), xviii. p. 805 (1849); *id. Cat. B. Mus. As. Soc.* p. 64 (1849); *Gray, Gen. B.* iii. App. p. 21 (1849); *Reichenb. Scans. Picinæ*, p. 373 (1854); *Malh. Picidæ*, i. p. 141 (1861); *Sundev. Consp. Av. Picin.* p. 29 (1866); *Gray, List Picid. Brit. Mus.* p. 43 (1868); *id. Hand-l. B.* ii. p. 184, no. 8581 (1870); *Oates, B. Brit. Burm.* ii. p. 36 (1883).

Yungipicus trisulensis, *Bp. Consp. Volucr. Zygod.* p. 8 (1854, *non Licht.*).

Yungipicus canicapillus, *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. pp. 677, 992 (1856–58); *Jerd. B. Ind.* i. p. 279 (1862); *Blyth, Ibis*, 1870, p. 163; *Hume, Str. F.* 1874, p. 471; *Blyth & Wald. B. Burm.* p. 78 (1875); *Hume, Str. F.* 1875, pp. 14, 59; *Armstrong, Str. F.* 1876, p. 309; *Hume, op. cit.* 1877, pp. 25, 113; *Hume & Davison, op. cit.* 1878, vi. p. 125; *id. tom. cit.* App. p. 500; *Hume, op. cit.* 1879, p. 87.

Bæopipo canicapilla, *Cab. & Heine, Mus. Hein.* Th. iv. p. 58 (1863).

Picus, sp., *Beavan, Ibis*, 1869, p. 413.

Iyngipicus canicapillus, *Harvitt, Ibis*, 1882, p. 39; *Oates, Str. F.* 1882, p. 190; *Gould, B. Asia*, vi. pl. xxvii., ♂ ♀ (1883); *Salvad. Ann. Mus. Civ. Stor. Nat. Genova*, 1887, p. 578; *Hume, Str. F.* xi. p. 60 (1888).

Adult male. Above, including wings and tail and their coverts, black, the back, rump, upper tail-coverts, and the scapulars barred with white; the median and the greater wing-coverts, and the quills, on both webs, spotted with white; the central rectrices spotted, and the lateral ones barred with white; shafts of quills and of rectrices black; top of the head ashy grey, the occiput, nape, and hind neck black; upon the side of the occiput a scarlet stripe; nasal plumes and sides of the face and neck white, the ear-coverts sepia-brown, with a broad black stripe behind; malar region slightly dusky; chin and throat uniform pure white; the under surface of the body dull white, slightly fulvescent, entirely striped with black; under tail-coverts dull white with a broad brown central stripe, or other transverse and varied markings; under wing-coverts white spotted with black, the axillaries white: "bill dark plumbeous, paler at gape and on the greater portion of the lower mandible; iris reddish hazel; eyelids purplish blue; feet dusky green; claws horn-colour" (*Oates*). Total length 5 inches, culmen 0·67, wing 3·2, tail 1·65, tarsus 0·53; toes (without claws)—outer anterior 0·35, outer posterior 0·45, inner anterior 0·3, inner posterior 0·2.

Adult female. Resembles the male, but lacks the red stripe on the

side of the occiput. Total length 5 inches, culmen 0·65, wing 3·2, tail 1·6, tarsus 0·53.

Hab. British and Native Burmah, extending into Manipur and Cachar, and south through the Malayan Peninsula to Singapore Island.

a. ♂ ad.; *b*. ♀ imm. sk.	Cachar (*J. Inglis*).	Hume Coll.
c, *d*. ♂ ad.; *e*. ♀ ad. sk.	Aimole, Manipur, April 1881 (*A. O. H.*).	Hume Coll.
f. ♂ ad. sk.	Hirok, Manipur, May 1881 (*A. O. H.*).	Hume Coll.
g. ♀ imm. sk.	Tipperah.	Hume Coll.
h. ♀ ad. sk.	Tipperah Hills, Jan. 1870.	Hume Coll.
i, *k*. ♂ ♀ ad. sk.	Kyouk-Kyee, Jan. 5, 1874 (*R. G. W. R.*).	Tweeddale Coll.
l, *m*. ♂ ♀ imm. sk.	Karen-nee, March 1874 (*R. G. W. R.*).	Tweeddale Coll.
n, *o*, *p*. ♂ ad. sk.	Karen Hills, Sept., Jan. (*R. G. W. R.*).	Tweeddale Coll.
q–*t*. ♂ ad.; *u*–*w*. ♀ ad. sk.	Tonghoo, Feb., March, May, Nov. (*R. G. W. R.*).	Tweeddale Coll.
x. ♂ ad.; *y*. Juv. sk.	Thayetmyo.	Tweeddale Coll.
z, *a'*. ♂ ad. sk.	Thayetmyo.	Hume Coll.
b'. ♂ imm. sk.	E. Pegu Hills, April 16, 1873 (*E. W. Oates*).	Hume Coll.
c'. ♂ ad.; *d'*, *e'*. ♀ ad. sk.	Elephant Point, Rangoon, Dec. 1875 (*J. Armstrong*).	Hume Coll.
f'. ♂ ad. st.	Tenasserim.	J. C. D. Packman, Esq. [P.].
g'. ♀ ad. sk.	Kyouk-nyat, Jan. 30, 1874 (*W. Davison*).	Hume Coll.
h', *i'*, *k'*. ♂ ad.; *l'*–*o'*. ♀ ad. et imm. sk.	Pahpoon, Dec., Jan. 1874 (*W. Davison*).	Hume Coll.
p'. ♀ ad. sk.	Beeling, Jan. 29, 1876 (*W. Davison*).	Hume Coll.
q'. ♂ ad. sk.	Shouay Goon, Salween River, Aug. 8, 1865 (*R. C. Beavan*).	Tweeddale Coll.
r'. ♂ imm. sk.	Meplay R., Thoungyeen Forests, March 19, 1879 (*C. T. Bingham*).	Hume Coll.
s'. ♀ ad. sk.	Thamban, Jan. 15, 1878 (*W. Davison*).	Hume Coll.
t', *u'*. ♂ ad.; *v'*. ♀ ad. sk.	Thatone, Nov., Dec. (*W. Davison*).	Hume Coll.
w', *x'*. ♀ ad. sk.	Wimpong, Dec. 1876 (*W. Davison*).	Hume Coll.
y'. ♂ imm. sk.	Moulmein (*W. Limbory*).	Tweeddale Coll.
z'. ♀ ad. sk.	Megaloon, Houngthraw R., Jan. 9, 1877 (*W. Davison*).	Hume Coll.
a'', *b''*. ♂ ♀ ad. sk.	Amherst, March, Dec. (*W. Davison*).	Hume Coll.

c''. ♂ ad. sk.	Epoo, Myawadee, Jan. 25, 1877 (*W. Davison*).	Hume Coll.
d''. ♂ ad. sk.	Yea, March 30, 1874 (*W. Davison*).	Hume Coll.
e''. ♀ ad. sk.	Meeta Myo, April 18, 1874 (*W. Davison*).	Hume Coll.
f'', *g''*. ♂ ♀ ad. sk.	Tavoy, April 13, 1878 (*W. Davison*).	Hume Coll.
h''. ♀ ad. sk.	Bankasoon, June 5, 1877 (*W. Davison*).	Hume Coll.
i''. ♀ ad. sk.	Malewoon.	Hume Coll.
k''. ♀ ad. sk.	Khotown, Victoria Point, March 2, 1875 (*W. Davison*).	Hume Coll.
l'', *m''*. ♂ ♀ ad. sk.	Klang, May 1879 (*W. Davison*).	Hume Coll.
n'', *o''*. ♂ ♀ ad. sk.	Gunnong Pulai, Johore, July, Aug. (*W. Davison*).	Hume Coll.
p'', *q''*, *r''*. ♂ ad.; *s''*. ♀ ad. sk.	Johore, Aug., Sept. (*W. Davison*).	Hume Coll.
t''. ♂ ad. sk.	Singapore Island; Feb. 6, 1879 (*W. Davison*).	Hume Coll.

9. **Iyngipicus picatus.** (Plate VI.)

Iyngipicus picatus, *Hargitt, Ibis*, 1882, p. 41.

Adult male. Above, including the wings and their coverts, jet-black, the back, scapulars, rump, and upper tail-coverts barred with white, the median and the greater wing-coverts and both webs of the quills spotted with white; shafts of quills black; tail black, the six central feathers spotted with white upon both webs, the spots not exceeding three in number, the two outer large feathers on either side spotted with white on the outer web and barred on the inner web; shafts black; nasal plumes black; forehead and crown smoky grey; outer edge of the crown, the occiput, and hind neck black; upon the side of the occiput a stripe of scarlet; lores, likewise the sides of the face and neck, white, the ear-coverts dark brown, and behind these a large patch or broad stripe of black; malar region dusky, varied with light brown, and behind this a blackish stripe bordering the throat and fore neck, and becoming dark brown varied with rufous or ochreous brown on the side of the chest; chin, throat, and fore neck white, the latter striped with brownish black; under surface of the body and under tail-coverts ochreous or yellowish white striped with black; under wing-coverts and axillaries white, the former spotted, the latter striped with black. Total length 5 inches, culmen 0·72, wing 3·05, tail 1·35, tarsus 0·6; toes (without claws)—outer anterior 0·4, outer posterior 0·47, inner anterior 0·32, inner posterior 0·22.

Hab. N.W. Borneo.

a. ♂ ad. sk.	Sir Hugh Low [C.].

10. Iyngipicus grandis. (Plate VI.)

Picus moluccensis, *Wall.* (*non Gm.*) *in Salvad. Ucc. Born.* p. 43, note (1874).

Iyngipicus grandis, *Hargitt, Ibis*, 1882, p. 45.

Yungipicus grandis, *Guillem. P. Z. S.* 1885, p. 503; *id. Voy. March.* ii. p. 149 (1886).

Adult male. Resembles *I. auritus* in coloration and markings generally, but is conspicuously larger, and the tail-feathers (except the outer large one which is barred) have *four* buffy-white spots upon each web: "iris reddish brown; bill nearly black; tarsus dirty black" (*Guillemard*). Total length 5·7 inches, culmen 0·75, wing 3·15, tail 1·7, tarsus 0·55: toes (without claws)—outer anterior 0·37, outer posterior 0·5, inner anterior 0·35, inner posterior 0·2.

Adult female. Has no scarlet stripe on the side of the occiput. Total length 6 inches, culmen 0·85, wing 3·25, tail 1·65, tarsus 0·55.

Average measurements of *I. grandis* and *I. auritus*:—

I. grandis..... Wing 3·22; culmen 0·77.
I. auritus..... ,, 2·9 ; ,, 0·62.

Hab. The islands of Lombock and Flores.

a. ♀ ad. sk.	Flores.	Wallace Coll.
b, c. ♂ ♀ ad. sk.	Flores (*A. R. Wallace*).	Tweeddale Coll.
d. ♂ ad.; *e, f.* ♀ ad. sk.	Lombock.	Wallace Coll. (Types of species.)
g, h. ♂ ad.; *i.* ♀ ad. sk.	Lombock (*A. R. Wallace*).	Gould Coll.

11. Iyngipicus auritus.

Le petit Épeiche brun des Moluques, *Buff. Hist. Nat. Ois.* vii. p. 68 (1783).

Petit Pic des Moluques, *Daubent. Pl. Enl.* pl. 748. fig. 2.

Picus moluccensis, *Gm. Syst. Nat.* i. p. 439 (1788, *ex Buff.*); *Steph. Gen. Zool.* ix. p. 178 (1815); *Vieill. N. Dict. d'Hist Nat.* xxvi. p. 86 (1818); *Horsf. Trans. Linn. Soc.* xiii. p. 177 (1822); *Bonn. et Vieill. Enc. Méth.* iii. p. 1314 (1823); *Vigors, Mem. Raffl.* p. 669 (1830); *Gray, Gen. B.* ii. p. 435 (1845, exclus. syn.); *Blyth, Cat. B. Mus. As. Soc.* p. 63 (1849); *Bp. Consp.* i. p. 137 (1850); *Temm. & Schl. Faun. Japon.* p. 74 (1850); *Cab. & Heine, Mus. Hein.* Th. iv. p. 61 (1863); *Gray, List Picid Brit. Mus.* p. 42 (1868); *id. Hand-l. B.* ii. p. 184, no. 8588 (1870); *Vorderm. Batav. Voy.* p. 200 (1882).

Picus minor, *Raffl. Trans. Linn. Soc.* xiii. p. 290 (1822, *non L.*).

Picus variegatus, *Wagl. Syst. Av.* Picus, no. 27 (1827, *non Lath.*); *Malh. Picidæ*, i. p. 139, pl. xxxiii. figs. 8–10 (1861); *Sundev. Consp. Av. Picin.* p. 28 (1866); *Gray, List Picid. Brit. Mus.* p. 43 (1868); *id. Hand-l. B.* ii. p. 184, no. 8580 (1870).

Tripsurus auritus, *Eyton, Ann. & Mag. Nat. Hist.* xvi. p. 229 (1845).

Yungipicus moluccensis, *Bp. Consp. Volucr. Zygod.* p. 8 (1854); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 675 (1856–58).

Yungipicus auritus, *Bp. Consp. Volucr. Zygod.* p. 8 (1854).
Bæopipo variegata, *Cab. & Heine, Mus. Hein.* Th. iv. p. 54 (1863).
Bæopipo aurita, *Cab. & Heine, Mus. Hein.* iv. p. 59 (1863).
Yungipicus sondaicus, *Blyth, Ibis,* 1866, p. 354; *id. op. cit.* 1870, p. 163.
Picus auritus, *Gray, List Picid. Brit. Mus.* p. 41 (1868); *id. Hand-l. B.* ii. p. 183, no. 8575 (1870).
Picus sondaicus, *Wall. MSS.*; *Gray, Hand-l. B.* ii. p. 184, no. 8589 (1870); *Wall. in Salvad. Ucc. Born.* p. 43, note (1874).
Iyngipicus fusco-albidus, *Salvad. Ucc. Born.* p. 42 (1874); *Nicholson, Ibis,* 1879, p. 165; *Sharpe, t. c.* 1879, p. 240; *Vorderm. List B. Java,* no. 52 (1884).
Yungipicus canicapillus (*non Blyth*), *Tiraut, Ois. B.-Cochinch.* p. 88 (1879).
Iyngipicus auritus, *Hargitt, Ibis,* 1882, p. 42; *Gould, B. Asia,* vi. pl. xxix., ♂ ♀ (1883); *Nicholson, Ibis,* 1883, p. 242; *Blas. Verhandl. zool.-bot. Gesellsch. Wien,* p. 29 (1883); *id. J. f. O.* 1884, p. 223; *Guillem. P. Z. S.* 1885, p. 405.
Iyngipicus frater*, *Salvad. & Gigl. Atti della R. Accad. Sc. Tor.* xx. p. 824 (1885).

Adult male. Above, including wings and tail and their coverts, blackish brown, the entire back, scapulars, rump, and upper tail-coverts barred with white; the median and the greater wing-coverts and the quills upon both webs spotted with white; the central tail-feathers spotted, the lateral ones barred with white; shafts of quills and of rectrices brown, those of the latter paler at the base; top of the head brown, the outer edge of the crown, the occiput, nape, and hind neck nearly black; upon the side of the occiput a scarlet stripe; nasal plumes buffy white; sides of the face and neck, chin and throat white; the ear-coverts and a broad stripe behind, also the malar stripe, dark brown; entire under surface of the body and under tail-coverts dingy buffy white, broadly striped with brown or dusky brown; under wing-coverts white spotted with brown; axillaries white: "irides brownish red; upper mandible black, lower one on underside greyish white; legs and feet sepia-green" (*H. O. Forbes*). Total length 5·2 inches, culmen 0·65, wing 2·95, tail 1·3, tarsus 0·55; toes (without claws)—outer anterior 0·35, outer posterior 0·45, inner anterior 0·27, inner posterior 0·2.

Adult female. Wants the scarlet stripe on the side of the occiput. Total length 5·2 inches, culmen 0·6, wing 2·85, tail 1·35, tarsus 0·55.

Hab. Malayan Peninsula into Siam and Cochin China; Sumatra, Java, and Borneo, including the island of Labuan.

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* When Count Salvadori kindly sent for my inspection the type of *I. frater*, I expressed my belief that it was distinct from Eyton's *I. auritus*; but a further examination of specimens of the latter species shows me that individuals occur which have the six central tail-feathers unspotted, and others in which the outer webs of the primaries are uniform, and I am now of opinion that *I. frater* is only an example of *I. auritus* in which these individual variations are combined.

a. ♂ ad. sk.	Penang.	Purchased.
b–e. ♂ ad.; *f*, *g*. ♀ ad. sk.	Klang, Jan., Feb. (*W. Davison*).	Hume Coll.
h. ♂ ad. sk.	Malacca.	Major Charlton [P.]. (Type of species.)
i. ♂ ad. sk.	Malacca (*Dr. Cantor*).	India Museum.
k. ♀ ad. sk.	Malacca.	Purchased.
l, *m*. ♂ ad. sk.	Malacca (*Dr. Maingay*).	Tweeddale Coll.
n. ♀ ad. sk.	Malacca, Aug. 22, 1873 (*R. G. W. R.*).	Tweeddale Coll.
o. ♂ ad. sk.	Singapore.	Tweeddale Coll.
p, *q*. ♂ ad. et juv. sk.	Singapore, Aug., Dec. (*W. Davison*).	Hume Coll.
r. ♀ ad. sk.	Singapore Island, Dec. 12, 1879 (*W. Davison*).	Hume Coll.
s. ♀ ad. sk.	Sumatra.	Purchased.
t. ♂ ad. sk.	Sumatra.	Wallace Coll.
u. ♀ ad. sk.	Sumatra (*Carl Bock*).	Tweeddale Coll.
v. ♀ ad.; *w*. ♀ imm. sk.	West coast of Sumatra.	Dr. Von Faber [C.].
x, *y*. ♂ ♀ ad.; *z*, *a'*. ♂ imm. sk.	Lampong, S.E. Sumatra (*E. C. Buxton*).	Tweeddale Coll.
b', *c'*. ♀ imm.; *d'*. Juv. sk.	Java (*Horsfield*).	India Museum.
e'. ♂ ad. sk.	Java (*Leiden Museum*).	Salvin-Godman Coll.
f'–k'. ♂ ad.; *l'*. ♀ ad. sk.	Java.	Tweeddale Coll.
m'. ♂ ad. sk.	W. Java.	F. Nicholson, Esq. [P.].
n'. ♂ ad. sk.	E. Java.	Wallace Coll.
o'. ♂ ad. sk.	E. Java (*A. R. Wallace*).	Tweeddale Coll.
p'. ♂ ad. sk.	Borneo.	Purchased.
q'. ♀ ad. st.	Borneo.	Gould Coll.
r', *s'*. ♂ ad. sk.	Sarawak (*A. Everett*).	Tweeddale Coll.
t', *u'*. ♂ ad. sk.	Labuan (*H. Low*)	Tweeddale Coll.
v', *w'*. ♀ ad. sk.	Labuan (*H. Low*).	R. B. Sharpe, Esq. [P.].
x'. ♂ ad. sk.	Lawas River.	H. Veitch, Esq. [P.].

12. Iyngipicus nanus.

Picus nanus, *Vigors*, *P. Z. S.* 1831, p. 172; *Gray*, *Gen. B.* ii. p. 435 (1845).
Yungipicus nanus, *Bp. Consp. Volucr. Zygod.* p. 8 (1854).
Bæopipo nana, *Cab. & Heine*, *Mus. Hein.* Th. iv. p. 57 (1863, note).
Iyngipicus nanus, *Reid*, *Str. F.* 1881, p. 24; *Hargitt*, *Ibis*, 1882, p. 38; *Gould*, *B. Asia*, vi. pl. xxxiv., ♂ ♂ (1883).

Male. Above, including rump, dusky brown barred with white; wing-coverts dusky brown spotted with white; quills dusky brown, spotted with white upon both webs, the spots upon the outer webs of the outer primaries being mere specks; shafts brown; upper tail-coverts dusky brown, barred and edged with white; tail dusky brown,

the feathers spotted upon both webs with white, the dwarf feather also tipped with the same; shafts brown, the tips black: forehead and crown browner than the back; nape black; lores, a broad superciliary stripe continued down the side of the neck, and cheeks white; from behind the eye, including the ear-coverts, and running down the side of the neck, a broad stripe of brown; a well-defined brown malar stripe; chin and throat white; entire underparts, including under tail-coverts, brownish white, broadly but faintly streaked with dusky brown; under wing-coverts white spotted with dusky brown; axillaries white. Total length 5 inches, culmen 0·65, wing 2·95, tail 1·35, tarsus 0·62; toes (without claws)—outer anterior 0·42, outer posterior 0·48, inner anterior 0·35, inner posterior 0·2.

Hab. North-west Himalayas (Dhurmsala &c.)*.

a. ♂ ad. sk.	Dhurmsala.	Pinwill Coll.
b, *c*. ♂ ad. sk.	N.W. India.	Pinwill Coll.

13. Iyngipicus hardwickii.

Picus moluccensis, *Gray* (*non Gm.*) *in Hardw. Ill. Ind. Zool.* i. pl. 33. figs. *a*, *b* (1830–32); *Blyth, J. A. S. Beng.* xiv. p. 197 (1845).

Picus (Dendrocopus) hardwickii, *Jerd. Madr. Journ.* xiii. p. 138 (1844).

Picus hardwickii, *Blyth, J. A. S. Beng.* xv. p. 15 (1846); *Gray, Gen. B.* iii. App. p. 21 (1849); *Bp. Consp.* i. p. 136 (1850).

Picus cinereigula, *Malh. Rev. et Mag. de Zool.* 1849, p. 531; *Bp. Consp.* i. p. 136 (1850); *Reichenb. Scans. Picinæ*, p. 373 (1854).

Picus variegatus, *Blyth* (*non Wagl.*), *Cat. B. Mus. As. Soc.* p. 64 (1849).

Yungipicus variegatus, *Horsf. & Moore* (*non Wagl.*), *Cat. B. E. I. Co. Mus.* ii. p. 675 (1854).

Yungipicus hardwickii, *Bp. Consp. Volucr. Zygod.* p. 8 (1854); *Jerd. B. Ind.* i. p. 278 (1862); *Blyth, Ibis*, 1866, p. 354; *Jerd. Ibis*, 1872, p. 8; *Butler, Str. F.* 1876, p. 36; *Fairb. tom. cit.* p. 255.

Picus (Yungipicus) hardwickii, *Blanf. J. A. S. B.* 1869, p. 168.

Yungipicus nanus, *Ball* (*non Vigors*), *Str. F.* 1874, p. 390; *Hume, Str. F.* 1875, p. 60; *Butler, Cat. B. Sind &c.* p. 18 (1879); *Hume, Str. F.* 1879, p. 87; *Butler, Cat. B. of the S. Portion of Bombay Presidency*, 1880, p. 22.

Iyngipicus hardwickii, *Hargitt, Ibis*, 1882, p. 45; *Gould, B. Asia*, vi. pl. xxviii., ♂ ♂ (1883).

Adult male. Back, scapulars, and rump dusky brown, barred with white; upper tail-coverts white, striped with brownish black; wing-coverts and quills dusky brown, the median and the greater coverts and both webs of quills spotted with white; shafts dark brown; tail brownish black, the feathers spotted with white on both webs;

* The occurrence in such a remote region of a species which is almost identical with the Malayan *I. auritus*, is very remarkable, but Captain Stackhouse Pinwill assures me that there is not a shadow of doubt as to the specimens in question having been obtained by him in the region assigned to them.

shafts black with brown bases; nasal plumes buffy white; top of the head, occiput, and nape cinnamon-brown or pale umber-brown, the hind neck darker brown; upon the side of the occiput an orange-scarlet stripe; lores, sides of the face and neck, chin, throat, and fore neck white, the ear-coverts and a stripe behind pale brown; the malar region dusky, with a stripe of pale brown down the side of the throat and fore neck, these latter with almost obsolete stripes or spots of pale brown; entire under surface of the body and under tail-coverts dull buffy or brownish white, broadly striped with umber-brown; under wing-coverts white, spotted with sooty black; axillaries white, faintly streaked with brown: "bill and legs plumbeous; orbital skin lake; irides pale yellow" (*Jerdon*). Total length 4·3 inches, culmen 0·55, wing 2·9, tail 1·25, tarsus 0·55; toes (without claws)—outer anterior 0·38, outer posterior 0·47, inner anterior 0·3, inner posterior 0·2.

Adult female. Differs from the male in wanting the scarlet stripe on the side of the occiput. Total length 4·5 inches, culmen 0·6, wing 3, tail 1·55, tarsus 0·55.

Hab. Central India, from Oudh south to the Godaveri Valley, and west to Oodypore.

a, *b*. ♂ imm.; *c*. ♀ ad. sk.	Oodypore, Feb. 1878.	Hume Coll.
d, *e*. ♂ ad. et imm.; *f*, *g*. ♀ ad. sk.	Saharunpur, Feb., March.	Hume Coll.
h. ♀ juv. sk.	Kumaon Bhabur, March 20, 1871.	Hume Coll.
i. ♂ ad. sk.	Etawah, Oct. 20, 1865.	Hume Coll.
k. ♀ ad. sk.	Cawnpore, Oct. 9, 1868.	Hume Coll.
l, *m*. ♂ ad. et imm.; *n*. ♀ ad. sk.	Allahabad, Dec.	Hume Coll.
o. ♂ ad. sk.	Sirguja, Jan. 1872.	Hume Coll.
p. ♀ ad. sk.	Oudh.	Tweeddale Coll.
q. ♀ ad. sk.	Oudh, Jan. 1874.	Hume Coll.
r, *s*. ♂ ad. sk.	Gondah (*S. Pinwill*).	Tweeddale Coll.
t, *u*. ♂ ♀ ad. sk.	Gondah.	Pinwill Coll.
v, *w*. ♂ ♀ ad. sk.	Futtehgurh, March, Oct.	Hume Coll.
x, *y*. ♂ ♀ ad. sk.	Mirzapur, March 1869 (*R. Thompson*).	Hume Coll.
z. ♂ ad. sk.	Lallgunj, Tirhoot, April 22, 1869.	Hume Coll.
a'. ♂ ad. sk.	Behar.	Hodgson Coll.
b'. ♀ ad. sk.	N.E. India.	Tweeddale Coll.
c', *d'*. ♂ ad.; *e'*. ♀ ad. sk.	Sumbalpur, Dec., Jan.	Hume Coll.
f'–*i'*. ♂ ad.; *k'*, *l'*. ♀ ad. sk.	Raipur, Jan., Feb.	Hume Coll.
m', *n'*. ♂ ♀ ad. sk.	Kamptee.	Dr. R. B. Hinde [P.].
o'. ♂ ad.; *p'*. ♀ imm. sk.	Khandeish.	Tweeddale Coll.

q'.	♂ ad. sk.	Khandeish, Dec. 14, 1879 (*J. Davidson*).	Hume Coll.
r'.	♂ ad. sk.	Godaveri Valley, April 18, 1871.	W. T. Blanford, Esq. [P.].

14. Iyngipicus gymnophthalmus.

Little Brown Woodpecker, *Lath. Gen. Syn. Suppl.* i. p. 109 (1787).
Picus moluccensis, var. *β*, *Lath. Ind. Orn.* i. p. 234 (1790).
Picus minor, var. *γ*, *Lath. Ind. Orn.* i. p. 230 (1790).
Picus gymnophthalmos, *Blyth, J. A. S. Beng.* xviii. p. 804 (1849); *id. Cat. B. Mus. As. Soc.* p. 64 (1849); *Layard, Ann. & Mag. Nat. Hist.* xiii. p. 448 (1854); *Reichenb. Scans. Picinæ*, p. 373 (1854); *Gray, Hand-l. B.* ii. p. 184, no. 8578 (1870).
Yungipicus gymnophthalmos, *Kelaart, Prodr. Cat.* p. 128 (1852); *Jerd. B. Ind.* i. p. 279 (1862); *Holdsw. P. Z. S.* 1872, p. 427; *Legge, Str. F.* 1873, p. 433; *id. Ibis*, 1874, p. 15; *id. Str. F.* 1875, p. 365; *Bourd. op. cit.* 1876, p. 389, pt.; *Legge, Birds of Ceylon*, p. 186 (1879).
Yungipicus gymnophthalmus, *Bp. Consp. Volucr. Zygod.* p. 8 (1854); *Jerd. Ibis*, 1872, p. 8; *Parker, Ibis*, 1886, p. 183.
Picus nanus, *Malh.* (*non Vigors*), *Picidæ*, i. p. 145, pl. xxxiii. figs. 1–3 (1861), pt.
Picus gymnophthalmus, *Malh. Picidæ*, i. p. 153 (1861); *Sundev. Consp. Av. Picin.* p. 298 (1866); *Gray, List Picid. Brit. Mus.* p. 42 (1868).
Bæopipo gymnophthalma, *Cab. & Heine, Mus. Hein.* Th. iv. p. 59 (1863).
Iyngipicus gymnophthalmus, *Hargitt, Ibis*, 1882, p. 47; *Gould, B. Asia*, vi. pl. xxxii., ♂ ♀ (1883).

Adult male. Back and scapulars barred brownish black and white; rump and upper tail-coverts white, the feathers more or less margined with black, the rump transversely varied, and the coverts with a broad stripe-like spot of black; wings and their coverts brownish black, the median and the greater coverts as well as both webs of the quills spotted with white; shafts of the latter dark brown; tail blackish brown, spotted with white upon both webs; shafts black, with brown bases; nasal plumes brown; top of the head very dark brown, the occiput, nape, and hind neck nearly black; upon the side of the occiput a scarlet stripe; lores, sides of the face and neck, chin and throat white, the ear-coverts dark brown with a broad stripe behind, the malar region only slightly dusky; entire under surface of the body and under tail-coverts buffy white, the body-feathers nearly uniform, with almost obsolete brown striations, the under tail-coverts more distinctly striped with brown; under wing-coverts and axillaries white, the former having a few dusky brown spots. Total length 4·7 inches, culmen 0·53, wing 2·85, tail 1·3, tarsus 0·52; toes (without claws)—outer anterior 0·4, outer posterior 0·47, inner anterior 0·28, inner posterior 0·22.

Adult female. Resembles the adult of the opposite sex, but wants the scarlet stripe on the side of the occiput: "iris white; bill brownish green; legs and feet greenish plumbeous" (*W. V. Legge*).

Total length 4·7 inches, culmen 0·55, wing 2·9, tail 1·25, tarsus 0·52.

The young have the underparts striated, and in the male the red stripe on the side of the occiput is more of an orange-scarlet.

Hab. Ceylon, and the extreme southern portion of the peninsula of India.

a, b. ♂ ad. sk.	Ceylon.	H. Cuming, Esq. [C.].
c. ♂ imm.; *d.* ♀ ad. sk.	Ceylon.	Gould Coll.
e, f, g. ♂ ad.; *h, i, k.* ♀ ad. sk.	Ceylon (*H. Nevill*).	Tweeddale Coll.
l. ♂ ad. sk.	Ceylon.	Hume Coll.
m. ♂ ad. sk.	Ceylon, Sept. 9, 1875.	Colonel Legge [P.].
n. ♂ ad. sk.	Ceylon, Jan. 26, 1872 (*W. V. Legge*).	Hume Coll.
o. ♂ ad. sk.	Colombo.	Philip Green, Esq. [P.].
p. ♂ imm. sk.	Kandy, July 19, 1877 (*Whyte*).	Hume Coll.
q. ♂ ad. sk.	Colta, Feb. 1, 1877 (*Hart*).	Hume Coll.
r. ♂ ad. sk.	Anjango, Travancore.	Hume Coll.
s. ♂ ad.; *t.* ♀ imm. sk.	Anjango, Dec. 1872.	Hume Coll.

Subsp. *a.* **Iyngipicus peninsularis.**

Picus nanus, *Malherbe* (*non Vigors*), *Picidæ*, p. 145, pl. xxxiii. figs. 4, 5 (1861), pt.; *Sunder. Consp. Av. Picin.* p. 28 (1866); *Gray, Cat. Picidæ Brit. Mus.* p. 42 (1868); *id. Hand-l. B.* ii. p. 184, no. 8579 (1870).

Yungipicus gymnophthalmos, *Bourd. Str. F.* 1876, p. 389, pt.

Iyngipicus peninsularis, *Hargitt, Ibis*, 1882, p. 48; *Gould, B. Asia*, vi. vi. pl. xxxiii., ♂ ♀ (1883).

Yungipicus gymnophthalmus (*non Blyth*), *Davison, Str. F.* x. p. 354 (1883).

Adult male. Back and scapulars blackish brown barred with white; rump and upper tail-coverts white, with stripe-like spots of dark brown; wings and their coverts, also the tail-feathers, blackish brown, the median and the greater coverts and both webs of the quills and tail-feathers spotted with white; shafts of quills dark brown, those of the rectrices darker and nearly black at the tip; nasal plumes brownish white; top of the head and occiput dark brown, rufescent anteriorly, the nape and hind neck darker than the crown; upon the side of the occiput a scarlet stripe; lores, sides of the face and neck, chin and throat white; ear-coverts of the same colour as the crown, and behind them a broad darker brown stripe down the side of the neck; fore neck and the whole of the underparts buffy white, more or less narrowly striped with rufescent brown; under tail-coverts dull white, striped with umber-brown; under wing-coverts and axillaries white, the former with conspicuous blackish-brown spots: "bill and legs plumbeous; irides yellow-ochre; the bare orbital skin dull lake-red" (*F. Bour-*

dillon). Total length 4·5 inches, culmen 0·6, wing 2·9, tail 1·45, tarsus 0·55 : toes (without claws)—outer anterior 0·33, outer posterior 0·42, inner anterior 0·32, inner posterior 0·2.

Adult female. Wants the red stripe on the side of the occiput. Total length 4·5 inches, culmen 0·6, wing 2·9, tail 1·4, tarsus 0·5.

Hab. The Peninsula of India, north to Belgaum.

a. ♀ ad. sk.	Madras (*T. C. Jerdon*).	Gould Coll.
b. ♂ ad. sk.	Madras.	Rev. H. H. Baber [P.].
c. ♂ ad. sk.	Belgaum (*E. A. Butler*).	Hume Coll.
d. ♂ ad. sk.	Malabar Coast.	Hume Coll.
e–h. ♂ ad.; *i.* Juv. sk.	Malabar Coast.	Tweeddale Coll.
k. ♂ ad. sk.	Malabar Coast, Dec. 1868 (*Col. Sturt*).	Tweeddale Coll.
l, m. ♂ imm.: *n, o, p.* ♀ ad. et imm. sk.	Bandapur, Mysore, May 1881 (*W. Davison*).	Hume Coll.
q, r. ♀ imm. sk.	Muddur, Mysore, May 22, 1881 (*W. Davison*).	Hume Coll.
s. ♂ imm. sk.	Seegore, Nilghiris, Feb. 21, 1881 (*W. Davison*).	Hume Coll.
t. ♀ ad. sk.	Mynall, Travancore, Feb. 18, 1876 (*F. W. Bourdillon*).	Hume Coll.
u. ♂ ad. sk.	Machur, Lower Palani Hills, June 14, 1877 (*S. B. Fairbank*).	Hume Coll.

15. Iyngipicus maculatus.

Petit Pic d'Antigue, *Sonn. Voy. Nouv. Guin.* p. 118, pl. 77 (1776).
Le petit Épeiche (pt.), *Buff. Hist. Nat. Ois.* vii. p. 64 (1780, *ex Sonn.*).
Picus maculatus, *Scop. Del. Faun. et Flor. Insubr.* p. 89 (1786, *ex Sonn.*); *Jerd. B. Ind.* i. p. 279 (1863).
Picus minor, var. *b*, *Lath. Ind. Orn.* i. p. 230 (1790).
Picus moluccensis, *Less. Traité*, i. p. 221 (1831, *non Gm.*); *Malherbe, Picidæ*, i. p. 143, pl. xxxii. (1861).
Picus nanus, *Blyth, J. A. S. Beng.* xiv. p. 197 (1845, *non Vigors*).
Picus validirostris, *Blyth, Cat. B. Mus. As. Soc.* p. 64 (1849); *id. J. A. S. Beng.* xviii. p. 805 (1849); *Reichenb. Seans. Picinæ*, p. 373 (1854); *Sundev. Consp. Av. Picin.* p. 29 (1866); *Gray, List Picid. Brit. Mus.* p. 43 (1868); *id. Hand-l. B.* ii. p. 184, no. 8582 (1870).
Picus flavinotus, *Malh. Picidæ*, i. p. 144 (1861, *ex spec. in Mus. Brit.*).
Bæopipo validirostris, *Cab. & Heine, Mus. Hein.* Th. iv. p. 60 (1863).
Picus (Yungipicus) validirostris, *Martens, J. f. O.* 1866, p. 20.
Yungipicus maculatus, *Walden, Tr. Z. S.* ix. p. 148 (1875); *Sharpe, Tr. Linn. Soc.* 1877, *Zool.* i. p. 350; *Kütter, J. f. O.* 1883, p. 295.
Iyngipicus maculatus, *Hargitt, Ibis*, 1882, p. 26; *Gould, B. Asia*, vi. pl. xxx., ♂ ♀ (1883).

Adult male. Upper parts, together with the wings and tail, also their coverts, brownish black, the back and scapulars narrowly barred, the rump and upper tail-coverts more broadly barred with

white; the wing-coverts and the quills on both webs spotted with white; the central rectrices barred, the lateral ones spotted more or less transversely with white; shafts of quills and of tail-feathers blackish brown, those of the central rectrices pale ochreous brown at the base; forehead and crown dark brown; occiput, nape, and hind neck nearly black; upon the side of the occiput a narrow scarlet stripe; nasal plumes ochreous white, with black tips; sides of the face and neck, chin, throat, and fore neck white, a very broad brownish-black auricular stripe, the malar region, sides of the throat, and the fore neck with large spots of black; under surface of the body fulvescent, broadly striped with black; the under tail-coverts fulvescent, with dusky-brown centres; under wing-coverts and axillaries white, the former spotted with black: "iris brown; bill black; legs greenish" (*A. H. Everett*). Total length 5·2 inches, culmen 0·7, wing 3·05, tail 1·35, tarsus 0·6; toes (without claws)—outer anterior 0·4, outer posterior 0·5, inner anterior 0·35, inner posterior 0·2.

Adult female. Wants the red stripe on the side of the occiput, but is otherwise like the male. Total length 5·2 inches, culmen 0·7, wing 3, tail 1·45, tarsus 0·6.

Hab. Philippine Islands: Luzon, Panay, and Guimaras.

a, b. ♂ ♀ ad. sk.	Philippines.	H. Cuming, Esq. [C.].
c, d. ♂ ad.; *e.* ♀ ad. sk.	Manila.	Gould Coll.
f, g. ♂ ♀ ad. sk.	Manila (*Maitland Heriot*).	Tweeddale Coll.
h, i. ♂ ♀ ad.; *k.* ♀ imm. sk.	Monte Alban, Feb. 1877 (*A. Everett*).	Tweeddale Coll.

16. Iyngipicus fulvifasciatus.

Iyngipicus fulvifasciatus, *Hargitt, Ibis*, 1881, p. 598; *id. op. cit.* 1882, p. 28; *Gould, B. Asia*, vi. pl. xxxi., ♂ ♀ (1883).

Adult male. Above, including axillaries, deep black barred with pale buff; rump and upper tail-coverts pale buff, a few of the latter having a black shaft-stripe; wing-coverts deep black, with large spots and bars of buffy white; quills black, spotted upon both webs with buffy white, giving a barred appearance to the wing, the spots upon the outer webs of the primaries very minute; a few of the innermost secondaries barred with white upon both webs; shafts black; tail pale buffy brown barred with black; dwarf feather blackish brown, tipped and barred with white; shafts of the central pair of feathers buffy white, black at the tip, those of the remainder dark brown; base of the forehead rufous, the remainder and the crown dark brown, the edge of the latter, likewise the occiput and hind neck, black; upon the outer part of the occiput a tuft of scarlet feathers, but not uniting with the corresponding one; from above the eye and running down the side of the neck a broad stripe of buffy white; lores and cheeks also buffy white; from behind the eye, including the ear-coverts, and running down the side of the neck a broad black stripe; chin and throat buffy white, the latter having a few spots of black; a black malar stripe, composed

of numerous spots; chest pale buff, largely spotted with black; underparts dull saffron-yellow striped with black; under tail-coverts buffy brown with darker centres; under wing-coverts white, spotted and varied with intense black; axillaries white: "iris crimson" (*A. H. Everett*). Total length 5·5 inches, culmen 0·75, wing 3·25, tail 1·45, tarsus 0·6; toes (without claws)—outer anterior 0·4, outer posterior 0·5, inner anterior 0·35, inner posterior 0·2.

A younger male has the rump and upper tail-coverts uniform; the white on the sides of the face and neck, chin and throat purer; the spots on the chest and breast smaller, and the breast not so yellow; the under wing-coverts less spotted with black, and the primaries tipped with white.

Adult female. Resembles the male, but wants the scarlet feathers on the side of the occiput. Total length 5·5 inches, culmen 0·8, wing 3·35, tail 1·55, tarsus 0·6.

Hab. Philippines: Mindanao (Zamboanga) and Basilan.

a. ♀ ad. sk.	Zamboanga, May 1878 (*A. Everett*).	Tweeddale Coll. (♀ type of species.)
b. ♀ imm. sk.	Zamboanga, May 1878 (*A. Everett*).	Tweeddale Coll.
c. ♂ ad. sk.	Basilan, May 1878 (*A. Everett*).	Tweeddale Coll. (Type of species.)
d. ♂ ad. sk.	Basilan, May 1878 (*A. Everett*).	Tweeddale Coll.

17. Iyngipicus ramsayi.

Iyngipicus ramsayi, *Hargitt, Ibis*, 1881, p. 598; *id. op. cit.* 1882, p. 49; *Gould, B. Asia*, vi. pl. xxiv., ♂ ♂ (1882); *Guillem. P. Z. S.* 1885, p. 254.

Adult male (type of species). Upper and middle back dingy olive-brown varied with white, the bases of the feathers being white and giving the back a striped appearance; lower back, rump, and upper tail-coverts white, striped with brown; scapulars and wing-coverts uniform brown; quills blacker, but edged externally with brown, the inner webs only spotted with white, except a few of the innermost secondaries, which have both webs spotted as well as the tips white; shafts dark brown, in some quills black; tail uniform brown, dwarf feather (only) tipped and spotted on the outer web with white; shafts of the central rectrices brown, lighter at the base, those of the remainder being black; nasal plumes brownish black; forehead, crown, nape, and hind neck dingy olive-brown; edge of the posterior half of the crown and occiput bright scarlet, the feathers being elongated; lores brownish white; a broad superciliary stripe continued down the side of the neck white, as are likewise the cheeks; from behind the eye, including the ear-coverts, and running down the side of the neck a broad stripe of brown; chin and throat white, the latter spotted with dusky brown; a broad dusky brown malar stripe uniting on the fore neck with the corresponding one; chest rich saffron-yellow, faintly striped with

dusky; underparts dull yellowish white, faintly streaked with dusky brown; under tail-coverts pale dusky brown, edged with dingy yellowish white; under wing-coverts brown varied with white: axillaries white: "iris indian red; bill slate; tarsus dull blue-black" (*Guillemard*). Total length 5·5 inches, culmen 0·75, wing 3·2, tail 1·3, tarsus 0·6; toes (without claws)—outer anterior 0·4, outer posterior 0·5, inner anterior 0·33, inner posterior 0·22.

Adult female. Differs from the adult male in wanting the scarlet feathers bordering the hinder portion of the crown and on the occiput, these parts being dark brown: "iris indian red; bill brownish; tarsus brownish black" (*Guillemard*). Total length 5·6 inches, culmen 0·8, wing 3·4, tail 1·7, tarsus 0·6.

The younger female has some indistinct spots of pale brown upon the inner webs of the four central rectrices: "iris brown; bill slate-black: tarsus olive-green" (*Guillemard*).

Hab. Sulu Islands.

a. ♂ ad. sk.	[Sulu Islands] (*A. Everett*).	Tweeddale Coll. (Type of species.)
b. ♂ ad. sk.	[Sulu Islands] (*A. Everett*).	Tweeddale Coll.

18. Iyngipicus temmincki.

Picus temmincki, *Malherbe, Rev. et Mag. de Zool.* 1849, p. 529; *Bp. Consp.* i. p. 137 (1850); *Malh. Picidæ*, i. p. 155, pl. xxxvi. fig. 3 (1861); *Sundev. Consp. Av. Picin.* p. 29 (1866); *Gray, List Picid. Brit. Mus.* p. 43 (1868); *id. Hand-l. B.* ii. p. 184, no. 8583 (1870).

Yungipicus temmincki, *Bonap. Consp. Volucr. Zygod.* p. 8 (1854); *Walden, Tr. Z. S.* viii. pp. 41, 111 (1872); *Salvad. Ann. Mus. Civic. Genov.* vii. p. 647 (1875); *Meyer, Ibis*, 1879, p. 57; *Blas. J. f. O.* 1883, p. 135.

Bæopipo temmincki, *Cab. & Heine, Mus. Hein.* Th. iv. p. 60 (1863).

Yungiceps temmincki, *Meyer, J. f. O.* 1873, p. 405 (laps. cal.).

Iyngipicus temmincki, *Hargitt, Ibis*, 1882, p. 49; *Gould, B. Asia*, vi. pl. xxv., ♂ ♀ (1882); *Guillem. P. Z. S.* 1885, p. 546.

Adult male. Back and scapulars pale dusky olive, barred with pale buff; rump and upper tail-coverts buff, the latter having a reddish-brown tinge and barred with dark brown; wing-coverts olive-brown, the quills brown, the median and greater coverts, as well as outer webs of the quills, spotted with buffy white, the spots on the inner webs of the latter pure white; shafts of quills dark brown; central pair of tail-feathers of the same colour as the coverts, the rest rather darker, and the whole barred with umber-brown; shafts brown, yellow at the base; forehead and crown olive-dusky; a band of scarlet spreads across the occiput on to the side of the neck; nape buffy white; lores white: sides of the face and neck olive-dusky, with a white superciliary stripe, and another white stripe from the lores passing under the ear-coverts and down the side of the neck; malar region dusky, mixed with white; chin and throat dusky, crossed by whitish markings, and a median stripe of buffy

white on the fore neck; underparts dingy buffy white, broadly striped with brown, the chest and breast washed with yellow; under tail-coverts pale ochreous brown, with umber-brown striations; under wing-coverts white, with a few large dusky-brown spots: "iris brown; bill greyish brown; tarsus dull olive" (*Guillemard*). Total length 5·2 inches, culmen 0·72, wing 3·05, tail 1·55, tarsus 0·57; toes (without claws)—outer anterior 0·45, outer posterior 0·52, inner anterior 0·37, inner posterior 0·22.

Adult female. Wants the scarlet occipital feathers. Total length 5·2 inches, culmen 0·7, wing 3·05, tail 1·6, tarsus 0·6.

Hab. Confined to Celebes.

a. ♀ ad. sk.	Celebes.	Purchased.
b, c. ♂ ♀ ad. sk.	Celebes.	Gould Coll.
d. ♂ imm. sk.	Celebes.	Wallace Coll.
e, f. ♂ ♀ ad. sk.	N. Celebes.	Tweeddale Coll.
g. ♂ ad. sk.	Menado.	Gould Coll.
h, i. ♂ ♀ ad. sk.	Makassar.	Wallace Coll.

19. Iyngipicus obsoletus *.

Picus obsoletus, *Wagl. Isis*, 1829, p. 510; *Rüpp. Syst. Uebers.* 1854, p. 88; *Gray, Gen. B.* ii. p. 435 (1846); *Reichenb. Scans. Picinæ*, p. 378, pl. dcxl. figs. 4271, 4272 (1854); *Sundev. Consp. Av. Picin.* p. 31 (1866); *Heugl. Orn. N.O.-Afr.* p. 803 (1871).

Dendrobates hemprichii, juv., *Rüpp. Syst. Uebers.* 1845, p. 88 (*teste Malherbe*).

Picus murinus (*non Malh.*), *Sundev. Œfv. Kongl. Vet.-Akad. Förhandl. Stockh.* 1850, p. 131; *Hartl. Abhandl. nat. Ver. Brem.* 1882, p. 207.

Dendromus obsoletus, *Bp. Consp. Volucr. Zygod.* p. 9 (1854).

Dendrobates obsoletus, *Hartl. J. f. O.* 1854, p. 199.

Dendropicus obsoletus, *Hartl. Orn. W.-Afr.* p. 178 (1857); *Malh. Picidæ*, i. p. 206, pl. xlv. figs. 1, 2 (1861); *Hartl. J. f. O.* 1861, p. 263; *Gray, List Picid. Brit. Mus.* p. 69 (1868); *id. Hand-l. B.* ii. p. 190, no. 8662 (1870); *Hargitt, Ibis*, 1883, p. 431; *Hartl. Zool. Jahrb. Zeitsch. Syst. Geog. Biol. Thiere*, 1887, p. 308.

Ipophilus obsoletus, *Cab. & Heine, Mus. Hein.* iv. p. 113 (1863).

Ipophilus murinus, *Cab. & Heine, Mus. Hein.* iv. p. 113, note (1863).

Picus hedenborgi, *Sundev. Consp. Av. Picin.* p. 31 (1866).

Dendropicus murinus, *Gray, List Picid. Brit. Mus.* p. 69 (1868); *id. Hand-l. B.* ii. p. 190, no. 8663 (1870).

Adult male. Back, rump and upper tail-coverts, scapulars and lesser wing-coverts umber-brown, the rump and upper tail-coverts barred with white; median and greater wing-coverts and the quills blackish brown, the former, as well as both webs of the latter, spotted with white; shafts of quills clear brown; tail brownish black, barred or transversely spotted with creamy white; shafts pale brown; nasal plumes, forehead, and crown umber-brown;

* I think this is without doubt a true *Iyngipicus*, and the occurrence of this Indian genus in the Ethiopian Region is remarkable.

occipital band scarlet; nape rather darker than the crown; sides of the face and neck, chin, throat, and fore neck white, with a broad umber-brown auricular stripe, and a broad malar one, of the same colour, bordering the throat and fore neck; under surface of the body and under tail-coverts dull white, striped with umber-brown; under wing-coverts and axillaries white, the former having dusky-brown spots. Total length 5 inches, culmen 0·7, wing 3·15, tail 1·3, tarsus 0·58; toes (without claws)—outer anterior 0·46, outer posterior 0·5, inner anterior 0·37, inner posterior 0·25.

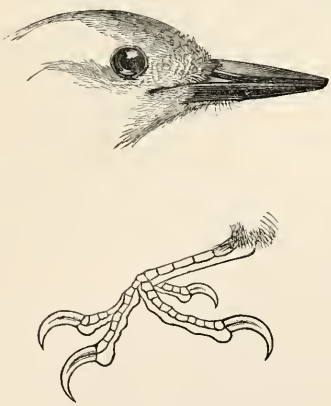
Adult female. Differs from the adult male in wanting the red occipital band. Total length 5 inches, culmen 0·7, wing 3·2, tail 1·55, tarsus 0·5.

Hab. In North-eastern Africa it ranges from Senaar through Kordofan south to Bongo and Langomeri; westward into Senegambia.

a, *b*. ♂ ♀ ad. sk.	Senegambia.	Purchased.
c, *d*. ♂ ♀ ad. sk.	Senegambia.	Old Coll.
e. ♀ ad. sk.	Langomeri, Equatorial Africa, Aug. (*Emin Pacha*).	Shelley Coll.

23. DENDROBATES.

	Type.
Dendrobates, *Swains. Faun. Bor.-Amer.* p. 300 (1831) .	D. affinis.
Eleopicus, *Bp. Consp. Volucr. Zygod.* p. 10 (1854)	D. olivinus.
Capnopicus, *Bp. Consp. Volucr. Zygod.* p. 10 (1854) ..	D. fumigatus.
Callipicus, *Bp. Consp. Volucr. Zygod.* p. 10 (1854) ..	D. callonotus.
Campias, *Cab. & Heine, Mus. Hein.* iv. p. 145 (1863) .	D. tephrodops.
Phæonerpes, *Cab. & Heine, Mus. Hein.* iv. p. 139 (1863)	D. fumigatus.



Bill and foot of *Dendrobates affinis*.

Range. South America as far south as the northern provinces of the Argentine Republic; through Central America, north to Jalapa in Southern Mexico.

Key to the Species.

A. With no yellow nuchal band.
  a'. Upper wing-coverts not spotted.
    a''. Uniform above and below.
      a'''. Above and below brown tinged with olive, the back-feathers sometimes tipped with rusty red.
        a^4. Face light brown.
          a^5. Larger: length 6·3 inches, wing 3·85; upper tail-coverts in adult, as well as in young, nearly black, rarely tipped with olive in the adult.
            a^6. Crown and occiput red ..... *fumigatus* ♂ ad., p. 343.
            b^6. Top of the head and the occiput brown, without any red. *fumigatus* ♀ ad., p. 343.
          b^5. Smaller: length 6 inches, culmen 3·53; upper tail-coverts in adult generally tinged with olive.
            c^6. Top of the head and the occiput red ..... *caboti* ♂ ad., p. 344.
            d^6. Top of the head and the occiput blackish brown ..... *caboti* ♀ ad., p. 344.
        b^4. Anterior half of face white, shading into brown posteriorly.
          c^5. Crown and occiput dull red .... *oleaginus* ♂ ad., p. 345.
          d^5. With no red on the crown or occiput ..... *oleaginus* ♀ ad., p. 345.
      b'''. Above golden brown, conspicuously washed with red, this colour also extending on to the wing-coverts, side of the neck, and the chest; top of the head and the occiput crimson. *sanguinolentus* ♂ ad., [p. 346.
      c'''. Above bright red; below uniform white or buffy white; the face and side of the neck posteriorly pale buffy brown.
        c^4. Top of the head, occiput, and nape red ..... *callonotus* ♂ ad., p. 347.
        d^4. Top of the head, occiput, and nape dusky or brownish black..... *callonotus* ♀ ad., p. 347.
    b''. Below barred; uniform or slightly spotted above.
      d'''. Underparts white, with very narrow dusky bars.
        e^4. Orbital region and upper part of the face, including the ear-coverts, dusky brown, this colour not separated from the crown and occiput by white; underparts with only a few faint dusky bars ..... *callonotus* juv., p. 347.
        f^4. Orbital region and auricular stripe blackish brown, the latter separated from the crown and occiput by white; underparts entirely barred in adult (the barring more obsolete in young).

e^5. Feathers of the crown, occiput, and nape black, tipped with red ..... *peruvianus* ♂ ad., p. 348.
f^5. With no red on the black feathers of the top of the head or nape.. *peruvianus* ♀ ad., p. 348.
e'''. Underparts dusky olive, with narrow whitish bars.
g^4. Crown, occiput, and nape red .... *sanguineus* ♂ ad., p. 348.
h^4. Crown, occiput, and nape blackish brown, spotted with dingy white. *sanguineus* ♀ ad., p. 349.
f'''. Above entirely olive, golden olive, or brownish olive.
i^4. Chin, throat, and entire underparts barred.
g^5. Underparts white or yellowish, barred with black or olive-black.
e^6. Rump spotted with yellow; no red on the back; central tail-feathers spotted at the base.
a^7. Feathers of the crown and occiput black, tipped with red ..... *kirtlandi* ♂ ad., p. 350.
b^7. Crown and occiput olive, without any red ..... *kirtlandi* ♀ ad., p. 349.
f^6. Rump not spotted; back spotted with dull red; central tail-feathers not spotted.
c^7. Top of the head, occiput, and nape red ..... *nigriceps* ♂ ad., p. 350.
d^7. Top of the head, occiput, and nape black ..... *nigriceps* ♀ ad., p. 351.
h^5. Underparts mouse-grey, narrowly barred with pale brown; rump barred with yellow.
g^6. Top of the head red ..... *murinus* ♂ ad., p. 351.
h^6. Top of the head dusky olive, striped with yellowish white. *murinus* ♀ ad., p. 351.
j^4. Chin and throat striped; chest and breast barred; the remainder of underparts uniform; top of the head, occiput, and nape red .... *dignus* ♂ ad., p. 351.
b'. Upper wing-coverts spotted with yellow or white.
c''. Chin and throat as well as underparts barred.
g'''. Face umber-brown, with no white on malar region; underparts dark olivaceous dusky or brownish, narrowly barred with dingy white; back with almost obsolete yellowish shaft-stripes.
k^4. Top of the head and the occiput red ..... *tephrodops* ♂ ad., p. 353.
l^4. Top of the head and the occiput dusky brown, with pale buffy brown spots ..... *tephrodops* ♀ ad., p. 353.

h'''. Face olivaceous, the ear-coverts uniform, the remainder spotted or barred with white; underparts equally barred fulvescent white and pale olive-brown; back with transverse yellow spots.

*m*⁴. Top of the head, occiput, and nape scarlet ..... *tænionotus* ♂ ad., p. 353.

*n*⁴. Top of the head, occiput, and nape dusky brown, minutely spotted with dull white..... *tænionotus* ♀ ad., p. 354.

d''. Chin and throat spotted or striped.

i'''. Entire underparts barred.

*o*⁴. Back, rump, and upper tail-coverts spotted with yellow, the back transversely so; spots on wing-coverts white; underparts olivaceous dusky, narrowly barred with dull white.

*i*⁵. Crown and occiput red, forehead spotted with white ..... *frontalis* ♂ ad., p. 355.

*j*⁵. Crown and occiput not red, but spotted like the forehead..... *frontalis* ♀ ad., p. 354.

*p*⁴. Back, rump, and upper tail-coverts with faint yellow shaft-stripes; spots on wing-coverts yellow; underparts barred olive and fulvescent white.

*k*⁵. Crown and occiput red, the forehead spotted with smoky white. *agilis* ♂ ad., p. 356.

*l*⁵. Top of the head, occiput, and nape dusky brown, spotted with white..... *agilis* ♀ ad., p. 355.

*q*⁴. Back and upper tail-coverts uniform, the rump narrowly barred with yellow; underparts olive dusky or brown, narrowly barred with dull white.

*m*⁵. Occiput and nape red, the forehead and crown umber-brown . *olivinus* ♂ ad., p. 356.

*n*⁵. With no red on occiput or nape, these, together with the forehead and crown, being dusky olive-brown, the feathers having lighter tips and on the occiput a somewhat spotted appearance ..... *olivinus* ♀ ad., p. 357.

j'''. Chest and upper breast olivaceous brown, not barred, but with spots and shaft-stripes of dull whitish; central tail-feathers uniform.

*r*⁴. Top of the head, occiput, and nape red ..... *fidelis* ♂ ad., p. 357.

*s*⁴. With no red on the top of the head or nape, these being dusky brown with hair-like streaks of yellowish or whitish posteriorly ..... *fidelis* ♀ ad., p. 357.

k'''. Underparts spotted with dull yellowish white; above entirely spotted with yellow.

t^4. Top of the head and the occiput brownish black, the forehead with longitudinal spots of white, the crown and occiput striped with red ..... *spilogaster* ♂ ad., p. 358.

w^4. With no red on the head, the feathers of the entire top of the head and occiput having white shaft-stripes terminating in a spot .... *spilogaster* ♀ ad., p. 359.

B. With yellow nuchal band, always distinct in the female, but more or less washed with red in the old male.

c'. With no red on rump or upper tail-coverts.

e''. With no red on back or wings.

l'''. Upper parts and outer webs of quills spotted.

v^4. Top of the head dusky black, the forehead and greater part of the crown striped with white, the feathers of the hind part of crown and of the occiput tipped with red. *maculifrons* ♂ ad., [p. 360.

w^4. With no red on the top of the head or occiput, the whole being striped with white ..... *maculifrons* ♀ ad., [p. 360.

m'''. Upper parts and outer webs of quills uniform.

x^4. Top of the head and the occiput red ..... *cassini* ♂ ad., p. 360.

y^4. Top of the head and the occiput blackish brown, with no red .... *cassini* ♀ ad., p. 361.

f''. With red on back or wings.

n'''. Malar region uniform ochreous buff, like the face.

z^4. Wing-coverts almost entirely blood-red, with large triangular pinkish-white spots; the back conspicuously washed with red; the dark barring on underparts nearly black.

o^5. Top of the head and the occiput red..... *ruficeps* ♂ ad., p. 361.

p^5. With no red on the top of the head or occiput, these being dusky brown, olive posteriorly, the forehead with a few minute brownish-white spots..... *ruficeps* ♀ ad., p. 362.

aa^4. Wing-coverts and upper parts only slightly tinged with red, the spotting on the coverts more of a buff; the dark barring on underparts olivaceous dusky or brown.

q^5. Top of the head and the occiput red ..... *affinis* ♂ ad., p. 363.

r^5. Top of the head and the occiput dusky brown, with no red .... *affinis* ♀ ad., p. 363.

o'''. Malar region spotted like the chin and upper throat.

bb^4. Wing-coverts spotted with buff, the spots sometimes washed with red; sexual differences as in the adult ..... *affinis* juv., p. 363.

cc^4. Wing-coverts margined with red and not spotted, the median series with (at most) a yellowish shaft-stripe.

s^5. Top of the head and the occiput red ..... [p. 364. *hæmatostigma* ♂ ad.,

t^5. Top of the head and the occiput olivaceous dusky, with no red . [p. 364. *hæmatostigma* ♀ ad.,

d'. Rump and upper tail-coverts crimson.

g''. Wing-coverts spotted; malar region, chin, and upper throat covered with dusky spots on a white ground.

p'''. Top of the head and the occiput red. *kirki* ♂ ad., p. 365.

q'''. Top of the head and the occiput almost uniform dusky brown, with no red..... *kirki* ♀ ad., p. 365.

h''. Wing-coverts not spotted; the malar region, chin, and upper throat less spotted and conspicuously whiter.

r'''. Top of the head and the occiput red. *cecilicæ* ♂ ad., p. 366.

s'''. Top of the head and the occiput brownish dusky, with conspicuously lighter tips to the feathers, but with no red ..... *cecilicæ* ♀ ad., p. 366.

1. Dendrobates fumigatus.

Picus fumigatus, *Lafr. & d'Orb. Voy. Amér. Mérid.* iv. p. 380, pl. lxv. fig. 1, ♂ (1835–44); *Tsch. Av. Consp. Rep. Peruan. in Arch. für Naturg.* 1844, p. 303, no. 251; *Cab. in Tschudi's Faun. Peruan., Orn.* pp. 43, 267 (1845–46); *Sundev. Consp. Av. Picin.* p. 35 (1866).

Mesopicos fumigatus, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 341.

Dendrobates fumigatus, *Gray, Gen. B.* iii. *App.* p. 21 (1849).

Chloronerpes fumigatus, *Bp. Consp. Gen. Av.* i. p. 118 (1850); *Reichenb. Scans. Picinæ*, p. 356, no. 822, pl. dcxxvi. fig. 4170, ♂ (1854); *Sclat. P. Z. S.* 1855, p. 161; *id. op. cit.* 1859, p. 146; *id. Cat. Amer. B.* p. 337, no. 2009 (1862); *Gray, List Picid. Brit. Mus.* p. 112 (1868); *id. Hand-l. B.* ii. p. 200, no. 8807 (1870); *Sclat. & Salv. Nomencl. Av.* p. 99 (1873); *Tacz. P. Z. S.* 1874, p. 546; *id. op. cit.* 1879, p. 240; *Sclat. & Salv. t. c.* pp. 533, 631; *Tacz. op. cit.* 1880, p. 209; *Salv. Cat. Strickl. Coll.* p. 394, no. 1927 (1882); *Berl. & Tacz. P. Z. S.* 1884, p. 307; *id. op. cit.* 1885, p. 106; *Tacz. Orn. Pérou*, iii. p. 79 (1886).

Capnopicus fumigatus, *Bp. Consp. Volucr. Zygod.* p. 10, no. 168 (1854).

Mesopicus fumigatus, *Malh. Picidæ*, ii. p. 51, pl. lvii. figs. 3, 4, ♂ ♀ (1862).

Phæonerpes fumigatus, *Cab. & Heine, Mus. Hein.* iv. p. 139 (1863).

Adult male. Back, scapulars, and rump olive-brown, the feathers having yellower tips, those of the back being slightly tinged with rusty red; upper tail-coverts black; wing-coverts, bastard-wing, primary-coverts and quills brown, the wing-coverts and outer webs of the secondaries narrowly margined with brownish olive, the inner webs of the quills (except at the tips of the primaries) having marginal quadrate spots of white; shafts brown, slightly reddish; central tail-feathers almost black, the lateral ones browner; shafts of central feathers black, brown at the base, those of the lateral feathers brown; nasal plumes and forehead brown; crown, occiput, and nape crimson, the bases of the feathers dusky black; hind neck like the back, but slightly lighter; sides of the face and neck brown with a fulvescent gloss, the lores and under the eye lighter; the malar region dusky, the feathers having pale brown tips; the whole of the under surface of the body brown, the feathers more or less with fulvescent tips, the partly exposed bases of those of the chin and upper throat dusky white; under tail-coverts of the same colour as the underparts; under wing-coverts dull white, striped and transversely spotted with brown. Total length 6·3 inches, culmen 0·84, wing 3·85, tail 2, tarsus 0·7; toes (without claws)—outer anterior 0·48, outer posterior 0·52, inner anterior 0·43, inner posterior 0·25.

The younger male, although resembling generally the adult, is more dusky in colour, and the red on the head and nape is very much duller, this being particularly the case with the nuchal feathers.

Adult female. Has the forehead, crown, occiput, and nape dark brown, the feathers having lighter brown tips. In other respects it resembles the adult male. Total length 6 inches, culmen 0·85, wing 3·72, tail 1·86, tarsus 0·72.

Hab. Bolivia, and south into the Province of Corrientes, Argentine Republic; north into Peru, Ecuador, and Colombia.

a, b. ♂ ad. sk.	U.S. Colombia.	Tweeddale Coll.
c, d. ♂ ♀ imm. sk.	Bogotá, U.S. Colombia.	Purchased.
e. ♂ ad. sk.	Bogotá.	Gould Coll.
f. ♀ ad.; *g.* ♂ juv. sk.	Bogotá.	Sclater Coll.
h. ♀ ad. sk.	Medellin, Antioquia (*T. K. Salmon*).	Salvin-Godman Coll.
i. ♂ ad. sk.	Santa Elena, Antioquia (*T. K. Salmon*).	Salvin-Godman Coll.
k. ♀ ad. sk.	Quito, Ecuador.	Purchased.
l. ♀ ad. sk.	Quito.	Salvin-Godman Coll.
m. ♂ ad. sk.	Maraviño, Ecuador (*Villagomez*).	Salvin-Godman Coll.
n. ♂ ad. sk.	San José, Ecuador (*C. Buckley*).	Salvin-Godman Coll.
o. ♂ imm. sk.	Tilotilo, Prov. Yungas, Bolivia (*C. Buckley*).	Salvin-Godman Coll.

2. Dendrobates caboti.

Chloronerpes oleagineus (*non Licht.*), *Sclat. & Salv. Ibis*, 1860, p. 400; *Zeled. Cat. Av. Costa Rica*, 1882, p. 23, no. 487; *Boucard, P. Z. S.* 1883, p. 452; *Zeled. Proc. U. S. Nat. Mus.* 1885, p. 111.

Mesopicus caboti, *Malh. Picidæ*, ii. p. 53, pl. lvii. fig. 1, ♂ (1862).

Chloronerpes caboti, *Sclat. Cat. Amer. B.* p. 337, no. 2011 (1862); *Salv. Ibis*, 1866, p. 206; *id. P. Z. S.* 1867, p. 157; *Gray, List Picid. Brit. Mus.* p. 113 (1868); *id. Hand-l. B.* ii. p. 200, no. 8809 (1870); *Salv. P. Z. S.* 1870, p. 212; *id. & Sclat. Nomencl. Av. Neotr.* p. 99 (1873); *Zeled. Cat. Av. Costa Rica*, 1882, p. 23, no. 489; *id. Proc. U. S. Nat. Mus.* 1885, p. 111.

Phæonerpes caboti, *Cab. & Heine, Mus. Hein.* iv. p. 139 (1863).

Picus caboti, *Sundev. Consp. Av. Picin.* p. 35 (1866).

Adult male. Similar to *D. fumigatus*, but is considerably less in size, and has the upper tail-coverts, in the adult, generally tinged with olive. It also resembles *D. oleaginus*, but may be distinguished by not having the anterior part of the face white, the fore part of the face being only of a lighter shade of brown than the hinder part. The dimensions of the present species are also less than those of *D. oleaginus*. Total length 6 inches, culmen 0·87, wing 3·53, tail 2, tarsus 0·75; toes (without claws)—outer anterior 0·48, outer posterior 0·58, inner anterior 0·43, inner posterior 0·26.

Adult female. Has the top of the head, occiput, and nape blackish brown, but is in other respects like the adult male. Total length 6 inches, culmen 0·75, wing 3·27, tail 1·83, tarsus 0·64.

Hab. Veragua, Costa Rica, Guatemala, British Honduras, and Yucatan, and extending into Southern Mexico to Teapa.

a. ♂ juv. sk.	Teapa, Mexico, Feb. (*D. W. Smith*).	Salvin-Godman Coll.
b. ♂ ad. sk.	Guatemala.	O. Salvin, Esq. [C.].
c. ♂ ad. sk.	Savana Grande, Guatemala (*O. S.*).	Salvin-Godman Coll.
d. ♂ imm. sk.	Sources Rio de la Pasion, Vera Paz (*O. S.*).	Salvin-Godman Coll.
e, f. ♂ imm.; *g.* ♀ ad. sk.	Choctum, Vera Paz, Jan. (*O. S.*).	Salvin-Godman Coll.
h. ♂ imm. sk.	Choctum, Vera Paz (*O. S.*).	Sclater Coll.
i. ♀ ad. sk.	Retaluleu, Guatemala (*O. S.*).	Salvin-Godman Coll.
k. ♂ ad. sk.	British Honduras (*F. Blancaneaux*).	Salvin-Godman Coll.
l. ♀ ad. sk.	Orange Walk, British Honduras, Dec. (*G. F. Gaumer*).	Salvin-Godman Coll.
m. ♂ juv. sk.	Costa Rica (*A. R. Endres*).	Salvin-Godman Coll.
n. ♂ ad. sk.	Costa Rica.	Tweeddale Coll.
o, p. ♂ ad. sk.	Veragua (*E. Arcé*).	Salvin-Godman Coll.

3. Dendrobates oleaginus.

Picus oleaginus, *Licht. Preis-Verz. Mex. Thier. ges. v. Deppe & Schiede*, i. no. 22 (1830); *id. J. f. O.* 1863, p. 55; *Sundev. Consp. Av. Picin.* p. 35 (1866).

Capnopicus oleaginus, *Bp. Consp. Volucr. Zygod.* p. 10, no. 170 (1854).

Chloronerpes oleaginus, *Reichenb. Scans. Picinæ*, p. 356, no. 823, pl. dclxxv. figs. 4467–68, ♀ ♂ ad. (1854); *Sclat. P. Z. S.* 1856, p. 307; *id. op. cit.* 1859, pp. 367, 368; *id. Cat. Amer. B.* p. 337, no. 2010 (1862); *id. P. Z. S.* 1864, p. 177; *Lawr. Ann. Lyc. Nat. Hist. N. York*, 1868, p. 131; *Gray, List Picid. Brit. Mus.* p. 112 (1868); *id. Hand-l. B.* ii. p. 200, no. 8808 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 99 (1873); *Ferrari-Perez, Proc. U.S. Nat. Mus.* 1886, p. 159.

Mesopicus oleaginus, *Malh. Picidæ*, ii. p. 53, pl. lvii. figs. 6, 7, ♂ ♀ ad. (1862).

Phæonerpes oleagineus, *Cab. & Heine, Mus. Hein.* iv. p. 140 (1863).

Adult male. Back, scapulars, and rump brown tinged with golden olive; upper tail-coverts brownish black; wing-coverts, bastard-wing, primary-coverts and quills brown, the basal half of the inner webs of the primaries and nearly the whole of the inner webs of the secondaries (except the innermost) spotted with white on the margin; shafts orange-brown; tail uniform blackish brown, the shafts nearly black except the base of those of the central feathers which are brownish white; nasal plumes and base of forehead brown; crown and occiput crimsom, the bases of the feathers dusky black; hind neck like the back; lores and anterior half of face creamy white, shading into pale brown on the posterior half of the face, and darker brown on the side of the neck; malar region, chin, and throat dusky, some of the feathers having dull whitish tips; the whole of the under surface of the body uniform brown, the feathers tipped with a brighter or more golden brown; under tail-coverts blackish brown; under wing-coverts white striped with brown, the edge of the wing brown; axillaries brown, with paler tips. Total length 6·8 inches, culmen 0·9, wing 4·12, tail 2·18, tarsus 0·82; toes (without claws)—outer anterior 0·56, outer posterior 0·63, inner anterior 0·48, inner posterior 0·26.

Adult female. Differs from the adult male in having the forehead, crown, and occiput brownish black, the feathers being tipped with brown, this producing a somewhat spotted appearance. Total length 6·2 inches, culmen 0·86, wing 3·95, tail 2·23, tarsus 0·7.

Hab. Southern Mexico, north to Jalapa and City of Mexico, and ranging into Northern Yucatan (Tizimin)*.

a. ♂ ad. st.	Orizaba, Mexico.	M. Sallé [C.].
b. ♀ ad. sk.	Orizaba.	M. Sallé [C.].
c. ♂ juv. sk.	Orizaba (*Botteri*).	Sclater Coll.
d. ♂ ad.; *e*. ♂ imm. sk.	Near the City of Mexico (*G. H. White*).	Salvin-Godman Coll.
f. ♀ ad. sk.	Jalapa (*de Oca*).	Sclater Coll.
g, *h*. ♂ ♀ ad. sk.	Jalapa, May (*F. D. G.*).	Salvin-Godman Coll.
i. ♂ juv. sk.	Tizimin, Northern Yucatan (*G. F. Gaumer*).	Salvin-Godman Coll.

* I cannot separate an example from this locality from true *D. oleaginus*.

4. Dendrobates sanguinolentus.

Chloronerpes sanguinolentus, *Sclat. P. Z. S.* 1859, p. 60, pl. cli.; *Gray, List Picid. Brit. Mus.* p. 112 (1868); *id. Hand-l. B.* ii. p. 200, no. 8806 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 99 (1873).

Mesopicus sanguinolentus, *Malh. Picidæ*, ii. p. 76, pl. xliii. bis. fig. 6, ♂ (1862).

Phæonerpes sanguinolentus, *Cab. & Heine, Mus. Hein.* iv. p. 140 (1863).

Phæonerpes reichenbachi *, *Cab. & Heine, Mus. Hein.* iv. p. 141 (1863).

Picus sanguinolentus, *Sundev. Consp. Av. Picin.* p. 35 (1866).

Picus rubidus †, *Sundev. Consp. Av. Picin.* p. 35 (1866).

Chloronerpes reichenbachi, *Gray, List Picid. Brit. Mus.* p. 112 (1868); *id. Hand-l. B.* ii. p. 200, no. 8805 (1870).

Adult male. Resembles *D. caboti*, but differs in having the back, scapulars, and hind neck conspicuously washed with blood-red, the feathers of the rump, the upper tail-coverts, wing-coverts, the feathers of the lower side of the neck and of the chest, also the under tail-coverts, margined or tipped with the same blood-red colour. The present species also bears a strong resemblance to both *D. oleaginus* and *D. fumigatus*, but its dimensions are considerably less, and in addition to the characters which separate it from *D. caboti*, it differs from *D. oleaginus* in not having the anterior half of face white, and from *D. fumigatus* in having olive-tinged upper tail-coverts. Total length 6 inches, culmen 0·87, wing 3·35, tail 1·72, tarsus 0·7; toes (without claws)—outer anterior 0·48, outer posterior 0·54, inner anterior 0·4, inner posterior 0·28.

Hab. Honduras (Omoa); Venezuela (Caraccas ‡).

5. Dendrobates callonotus.

Picus callonotus, *Waterh. P. Z. S.* 1840, p. 182, ♀ ad.; *Lafr. Rev. Zool.* 1847, p. 77, ♂; *Des Murs, Iconogr. Orn.* livr. 10, p. 4, pl. lix.,

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* I cannot see any specific difference between this and the present species. The wide extent of country between the habitats of the two birds may at first sight seem not to favour this view, but it is not more surprising than to find *Picumnus olivaceus* from Bogota reappearing in Honduras, the intervening country being tenanted by the yellow-crowned *P. granadensis*. Cabanis and Heine's species *may* be only a very red-backed *D. fumigatus*, of which I have seen an example from Medellin.

† I have already expressed my belief that this bird is no other than *D. sanguinolentus*. Sundevall has been completely misled by the figure of the latter species, and places it in a section separate from his *P. rubidus*, on account of the former having (according to the figure) the lateral tail-feathers barred externally. The tail, on the contrary, is perfectly uniform, thus corresponding with Sundevall's *P. rubidus*, and there are none of the bar-like markings on the outer webs of the quills, as represented in the figure. I have the type of *D. sanguinolentus* before me as I write this.

‡ I give this as a habitat, presuming that Sundevall's *P. rubidus* is identical with *Chloronerpes sanguinolentus* of Sclater.

♂ ad. (1849); *Malh. Picidæ*, i. p. 129, pl. xxx. figs. 1, 2, ♂ ♀ (1861); *Sclat. Cat. Amer. B.* p. 334, no. 1995 (1862); *Sundev. Consp. Av. Picin.* p. 35 (1866).

Dendrobates callonotus, *Gray, Gen. B.* ii. p. 437 (1845).

Chloronerpes cardinalis (*non Gm.*), *Less. Echo Mond. Sav.* 1845, p. 920, ♀; *id. Descr. Ois. Réc. découv.* 1847, p. 201, ♀.

Venilia callonotus, *Bp. Consp. Gen. Av.* i. p. 129 (1850).

Callipicus callonotus, *Bp. Consp. Volucr. Zygod.* p. 10, no. 202 (1854).

Chloronerpes callonotus, *Sclat. P. Z. S.* 1860, pp. 286, 297; *Gray, List Picid. Brit. Mus.* p. 114 (1868); *id. Hand-l. B.* ii. p. 200, no. 8813 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 99 (1873); *Tacz. P. Z. S.* 1883, p. 570; *id. & Berl. op. cit.* 1885, p. 106.

Adult male. The whole of the top of the head, hind neck, back, rump and upper tail-coverts, scapulars and wing-coverts, and margins of outer webs of secondaries scarlet, the remaining portion of the quills brown, the outer webs having a yellowish tinge, the inner webs more dusky, the basal half being margined with white and barred with dusky brown, except on the innermost secondaries, which want the dark bars; shafts reddish brown; the six central tail-feathers uniform brownish black, the lateral ones blackish brown barred with brownish buff, shafts blackish brown; nasal plumes blackish brown; sides of the face and neck buffy brown; from the chin to the under tail-coverts, both inclusive, white with a slight buffy tinge, the under tail-coverts having a few narrow dusky bars; under wing-coverts white, the edge of the wing brown. Total length 5·5 inches, culmen 0·85, wing 2·8, tail 1·7, tarsus 0·6; toes (without claws)—outer anterior 0·52, outer posterior 0·6, inner anterior 0·4, inner posterior 0·25.

Adult female. Has the top of the head, occiput, and nape black, but is otherwise like the adult male. Total length 5·3 inches, culmen 0·7, wing 2·95, tail 1·7, tarsus 0·57.

Young. May be distinguished from the adult by the very narrow dusky barring on the underparts, and also on the lower side of the neck; also in having the face, only, dusky brown, this colour not extending down the side of the neck, and not separated from the crown by a white stripe.

Hab. Western Ecuador.

a. ♀ ad. st.	Guayaquil, Ecuador.	Zoological Society. (Type of species.)
b. ♂ ad. sk.	Guayaquil.	Capt. Kellett and Lieut. Wood [P.].
c, d. ♂ ad. sk.	Puna Island, Gulf of Guayaquil.	G. Barclay, Esq. [P.].
e. ♀ ad. sk.	Puna Island.	Sclater Coll.
f, g. ♀ ad.; *h.* ♂ imm. sk.	Puna Island.	Salvin-Godman Coll.
i. ♂ ad. sk.	Babahoyo (*L. Fraser*).	Sclater Coll.

6. Dendrobates peruvianus.

Erythronerpes callonotus (*non Waterh.*), *Reichenb. Scans. Picinæ*, p. 430, no. 1014 (821 *b*), pl. dcxxvi. fig. 4169 ♂, pl. dclxxxi. figs. 4499–4500 ♂ ♀ ad. (1854); *Cab. & Heine, Mus. Hein.* iv. p. 142 (1863).

Picus callonotus (pt.), *Gieb. Thes. Orn.* iii. p. 146 (1876).

Chloronerpes callonotus (*non Waterh.*), *Tacz. P. Z. S.* 1877, p. 327; 1880, p. 209.

Chloronerpes callonotus major, *Tacz. P. Z. S.* 1883, pp. 570, 571.

Chloronerpes callonotus peruvianus, *Tacz. Orn. Pérou*, iii. p. 80 (1886).

Adult male. Resembles *D. callonotus*, but differs in having the loral and orbital region and a short auricular stripe blackish brown, the white of the neck running above the latter stripe almost to the eye, and clearly separating it from the occiput and nape; the side of the neck, fore neck, and entire underparts and under tail-coverts crossed by extremely narrow and faint dusky bars; the dimensions are also greater. Total length 5·7 inches, culmen 0·9, wing 3·05, tail 1·77, tarsus 0·66; toes (without claws)—outer anterior 0·52, outer posterior 0·62, inner anterior 0·4, inner posterior 0·26.

Adult female. Differs from the adult male in the entire absence of red on the top of the head or nape, these being uniform black. Total length 5·7 inches, culmen 0·77, wing 3·25, tail 1·9, tarsus 0·66.

Hab. Northern Peru.

7. Dendrobates sanguineus.

Picus sanguineus, *Licht. Cat. Rer. Hamb.* p. 17 (1793); *Wagl. Syst. Av.* Picus, sp. 97 (1827); *id. Isis*, 1829, p. 519; *Sundev. Consp. Av. Picin.* p. 36 (1866); *Salv. Cat. Strickl. Coll.* p. 394, no. 1928 (1882).

Picus rubescens, *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 90 (1818); *id. & Bonn. Enc. Méth.* iii. p. 1317 (1823).

Chloronerpes sanguineus, *Hartl. Syst. Verz. Mus. Brem.* p. 92 (1844); *Reichenb. Scans. Picinæ*, p. 356, no. 821, pl. dcxxvi. figs. 4167–68 (1854); *Sclat. Cat. Amer. B.* p. 338, no. 2020 (1862); *Gray, List Picid. Brit. Mus.* p. 113 (1868); *id. Hand-l. B.* ii. p. 200, no. 8810 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 99 (1873); *Salv. Ibis*, 1886, p. 58.

Dendrobates sanguineus, *Cab. in Schomb. Reis. Guian.* iii. p. 716 (1848); *Gray, Gen. B.* iii. App. p. 21 (1849).

Mesopicos sanguineus, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 341.

Venilia albertuli, *Bp. Consp. Gen. Av.* i. p. 129 (1850); *Reichenb. Scans. Picinæ*, p. 360, no. 832.

Venilia sanguineus, *Bp. Consp. Volucr. Zygod.* p. 10, no. 158 (1854).

Mesopicus sanguineus, *Malh. Picidæ*, ii. p. 74, pl. lx. figs. 4–5, ♂ ♀ ad. (1862).

Erythronerpes sanguineus, *Cab. & Heine, Mus. Hein.* iv. p. 143 (1863).

Adult male. The crown and hind neck, back, rump, and upper

tail-coverts, scapulars, wing-coverts, and the margins of the outer webs of the secondaries vermilion-red; quills brown, the inner webs spotted with white, the outer webs of the primaries dingy yellowish with one or two whitish spots; shafts brownish black; tail brown, the lateral feathers having bar-like spots of brownish white on both webs; shafts brown with black tips; nasal plumes, forehead, and face umber-brown, the forehead spotted, the ear-coverts streaked with pale buffy brown; malar region and chin dusky brown, transversely varied with dull buffy white; side of the neck, throat, and fore neck, the whole under surface of the body, and under tail-coverts dusky olive-brown, very narrowly barred with dull white; under wing-coverts creamy white, barred with dusky brown. Total length 5·3 inches, culmen 0·8, wing 2·9, tail 1·55, tarsus 0·65; toes (without claws)—outer anterior 0·42, outer posterior 0·5, inner anterior 0·35, inner posterior 0·22.

Adult female. Has the top of the head, occiput, and nape brown tinged with olive, the forehead and crown having pale buffy-brown spots. Total length 5·3 inches, culmen 0·75, wing 2·9, tail 1·7, tarsus 0·65.

Hab. Guiana and Venezuela.

a, b. ♂ ♀ ad. sk.	Venezuela.	Salvin-Godman Coll.
c. ♀ ad. sk.	Guiana.	Tweeddale Coll.
d. ♂ ad. sk.	Cayenne.	Sclater Coll.

8. **Dendrobates kirtlandi.**

Mesopicus kirtlandi, *Malh. Picidæ*, ii. p. 54, pl. lviii. fig. 1, ♂ (1862).
Campias kirtlandi, *Cab. & Heine, Mus. Hein.* iv. p. 150 (1863).
Picus kirtlandi, *Sundev. Consp. Av. Picin.* p. 39 (1866).
Chloronerpes kirtlandii, *Gray, List Picid. Brit. Mus.* p. 109 (1868); *id. Hand-l. B.* ii. p. 199, no. 8797 (1870).

Female. Entire upper parts, wing-coverts, outer webs of secondaries, and those of the primaries at the base golden-olive, the back almost uniform, with only a few nearly obsolete stripes of yellow; the rump spotted and the tail-coverts narrowly barred with yellow; outer webs of primaries spotted with dingy white, the ground-colour of the apical portion being brown; inner webs of quills spotted with white; shafts brownish black; tail brownish black, the four central feathers with almost obsolete buffy-brown spots at the base, the remaining feathers barred with buffy brown; shafts black; forehead, crown, and occiput olivaceous brown, the two latter spotted with yellowish brown; nape olive, with dull yellow spots; sides of the face and neck brownish or greyish white, the ear-coverts dusky, the malar region and side of the neck barred with dusky black; from the chin to the under tail-coverts, both inclusive, dull white, the chest washed with rufous, the whole being barred with black: under wing-coverts and axillaries pale yellow, the former transversely spotted and otherwise varied with olive-black, the latter having only one or two dusky olive spots.

Total length 6·2 inches, culmen 0·83, wing 3·6, tail 1·9, tarsus 0·65; toes (without claws)—outer anterior 0·46, outer posterior 0·56, inner anterior 0·4, inner posterior 0·25.

Adult male. From Malherbe's description of the male bird, it differs from the female in having the feathers of the top of the head and the occiput more or less red. The dimensions given equal the following:—Total length 6·26 inches, bill from gape 0·78, wing 3·82, tail 2·22.

Hab. Brazil (*Malherbe*), probably the extreme north, and Surinam.

a. ♀ ad. sk.	Maroni River, Surinam (*Kappler*).		Salvin-Godman Coll.

9. Dendrobates nigriceps.

Picus nigriceps, *Lafr. & d'Orb. Voy. Amér. Mérid.* iv. p. 380, pl. lxv. fig. 2, ♀ (1835–44); *Sundev. Consp. Av. Picin.* p. 40 (1866).
Eleopicus nigriceps, *Bp. Consp. Volucr. Zygod.* p. 10, no. 163 (1854).
Colaptes nigriceps, *Reichenb. Scans. Picinæ*, p. 417, no. 981, pl. dclxix. fig. 4436, ♀ (1854).
Mesopicus nigriceps, *Malh. Picidæ*, ii. p. 68, pl. lix. figs. 1, 2, ♂ ♀ ad. (1862).
Chloronerpes malherbii, *Sclat. Cat. Amer. B.* p. 338, no. 2016 (1862); *id. & Salv. Nomencl. Av. Neotr.* p. 99 (1873); *id. P. Z. S.* 1879, p. 631; *Berl. & Taez. op. cit.* 1884, p. 307; *iid. op. cit.* 1885, p. 106.
Campias malherbei, *Cab. & Heine, Mus. Hein.* iv. p. 155 (1863).
Chloronerpes nigriceps, *Gray, List Picid. Brit. Mus.* p. 111 (1868); *id. Hand-l. B.* ii. p. 200, no. 8802 (1870).

Adult male. Back and rump golden olive, the former having dull red spots, the latter spotted with yellow; upper tail-coverts dusky olive, barred and spotted with yellow; scapulars, wing-coverts, outer webs of secondaries and of primaries at their base olive; remaining portion of the quills brownish black, the inner webs spotted with pure white; the outer webs of the primaries with a few dull buffy-white spots; shafts dark brown; tail brownish black, the central feathers margined with golden olive at the base, the lateral feathers narrowly barred with brownish buff; shafts black; nasal plumes brown; forehead, crown, occiput, and nape vermilion-red; a white superciliary stripe and another white stripe below the ear-coverts, and between these an olive-brown auricular patch or stripe; remainder of the face white and the side of the neck yellow, the whole transversely varied or barred with blackish olive; chin dull white, spotted with dusky olive; throat and the whole under surface of the body and under tail-coverts barred yellowish white and blackish olive; under wing-coverts and axillaries yellowish white with blackish bars: lower mandible more or less white. Total length 6·8 inches, culmen 0·9, wing 4, tail 2·4,

tarsus 0·8; toes (without claws)—outer anterior 0·5, outer posterior 0·63, inner anterior 0·45, inner posterior 0·3.

Adult female. Has the top of the head devoid of red, the crown and occiput being black, the forehead browner, the feathers of the latter having buffy-brown shaft-stripes. Total length 6·8 inches, culmen 0·83, wing 3·96, tail 1·9, tarsus 0·6.

The younger female has the top of the head more of a sooty-brown, with no pale shaft-stripes on the forehead.

Hab. Bolivia, Eastern Peru, and Ecuador.

a, *b*. ♂ ad.; *c*. ♀ imm. sk.	Ecuador.	Salvin-Godman Coll.
d. ♂ ad. sk.	Sical, Ecuador (*C. Buckley*).	Salvin-Godman Coll.
e. ♂ ad. sk.	San José, Ecuador (*C. Buckley*).	Salvin-Godman Coll.
f. ♂ ad. sk.	Matos, Ecuador (*L. Fraser*).	Sclater Coll.
g. ♂ ad. sk.	Rio Napo, Ecuador.	Sclater Coll.
h. ♂ ad. sk.	Huasampilla, Peru, Mar. 1872 (*H. Whitely*).	Sclater Coll.

10. Dendrobates murinus.

Picus murinus, *Malh. Mém. Soc. Roy. Sc. Liége*, 1845, p. 67; *Sundev. Consp. Av. Picin.* p. 40 (1866).

Eleopicus murinus, *Bp. Consp. Volucr. Zygod.* p. 10, no. 167 (1854).

Mesopicus murinus, *Malh. Picidæ*, ii. p. 62, pl. lviii. figs. 5 ♂ ad., 6 ♂ juv., 7 ♀ (1862).

Campias murinus, *Cab. & Heine, Mus. Hein.* iv. p. 151 (1863); *Pelz. Orn. Bras.* p. 246 (1870); *id. & Lorenz, Ann. k. k. Naturh. Hofm.* iii. Th. iv. p. 44 (1888).

Chloronerpes murinus, *Gray, List Picid. Brit. Mus.* p. 111 (1868); *id. Hand-l. B.* ii. p. 200, no. 8801 (1870).

According to Malherbe, the present species differs from *D. olivinus* as follows:—In the male the forehead, crown, and half of the sinciput (occiput?) are red, this colour not extending on to the nape; whilst in *D. olivinus* the reverse is the case—that is to say, the red is found only on the nape. The underparts are pale brown barred with whitish grey, instead of being olivaceous. The olive colour of the back, rump, and wings is less bright, with scarcely a trace of yellow on these parts. The female scarcely differs from *D. olivinus*, it has some small spots of yellowish white on the olive-brown of the head. The measurements in inches are:—length 6·2, culmen 0·8, wing 3·62, tail 1·72, tarsus 0·67.

Hab. Provinces of Bahia and Goyaz, Brazil.

11. Dendrobates dignus.

Chloronerpes dignus, *Sclat. & Salv. P. Z. S.* 1877, p. 20, pl. 1, ♂; *iid. op. cit.* 1879, p. 533.

Adult male. Resembles *D. nigriceps*, but presents the following

differences :—The median series of wing-coverts are striped with yellow ; the buff bars on the lateral tail-feathers much broader : the malar region, chin, and upper throat more dusky black, and the auricular patch blacker ; the red extending from the nape on to the side of the neck ; the under surface of the body and under tail-coverts yellow, the lower abdomen, vent, thighs, and under tail-coverts uniform, the barring on the remainder deep olive ; under wing-coverts pale golden buff, the edge of the wing varied with blackish olive ; axillaries golden yellow ; bill entirely black. Total length 7 inches, culmen 0·9, wing 3·95, tail 2·2, tarsus 0·72 ; toes (without claws)—outer anterior 0·56, outer posterior 0·62, inner anterior 0·45, inner posterior 0·3.

Hab. Province of Antioquia, Colombia.

a. ♂ ad. sk.	Remedios, Antioquia, U.S. Colombia (*T. K. Salmon*).	Sclater Coll. (Type of species.)

12. Dendrobates tephrodops.

Le petit Pic de S. Domingue, *Briss. Orn.* iv. p. 75, pl. iv. fig. 2 (1760).

Picus passerinus, *Linn. Syst. Nat.* i. p. 174 (1766) ; *Gm. Syst. Nat.* i. p. 427 (1788) ; *Lath. Ind. Orn.* i. p. 238 (1790) ; *Vieill. Ois. Amér. Sept.* ii. p. 61, pl. cxv., ♂ (1807) ; *Steph. Gen. Zool.* ix. p. 200 (1815) ; *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 87 (1818) ; *id. & Bonn. Enc. Méth.* iii. p. 1315 (1823) ; *Wagl. Syst. Av.* Picus, sp. 60, ad. (*non* juv.) (1827).

Le petit Pic rayé du Sénégal, *Buff. Hist. Nat. Ois.* vii. p. 25 (1780).

Petit Pic du Sénégal, *Daubent. Pl. Enl.* 345. fig. 2.

Picus senegalensis, *Gm. Syst. Nat.* i. p. 430 (1788) ; *Lath. Ind. Orn.* i. p. 237 (1790) ; *Steph. Gen. Zool.* ix. p. 198 (1815) ; *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 88 (1818) ; *id. & Bonn. Enc. Méth.* iii. p. 1315.

Picus tephrodops, *Wagl. Syst. Av.* Picus, sp. 48 (1827) ; *Sundev. Consp. Av. Picin.* p. 39 (1866).

Picus striolatus, *Less. Traité*, i. p. 226 (1831).

Dendrobates passerinus, *Gray, Gen. B.* ii. p. 437 (1845) ; *Cab. in Schomb. Reis. Guian.* iii. p. 716 (1848).

Dendrobates senegalensis, *Gray, Gen. B.* ii. p. 437 (1845) ; *Bp. Consp. Gen. Av.* i. p. 125 (1850).

Mesopicus passerinus, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 341.

Chloronerpes passerinus, *Bp. Consp. Gen. Av.* i. p. 117 (1850) ; *Reichenb. Scans. Picinæ*, p. 354, no. 814, pl. dcxxiv. figs. 4161–62, ♂ ♀ ad. (1854) ; *Gray, List Picid. Brit. Mus.* p. 111 (1868) ; *id. Hand-l. B.* ii. p. 200, no. 8803 (1870).

Eleopicus passerinus, *Bp. Consp. Volucr. Zygod.* p. 10, no. 165 (1854).

Eleopicus tephrodops, *Bp. Consp. Volucr. Zygod.* p. 10, no. 166 (1854).

Mesopicus passerinus, *Malh. Picidæ*, ii. p. 59, pl. lxii. figs. 4, 5, ♂ ♀ ad. (1862).

Chloronerpes tephrodops, *Sclat. Cat. Amer. B.* p. 337, no. 2013 (1862) ; *Sclat. & Salv. P. Z. S.* 1867, p. 587 ; *Gray, List Picid. Brit. Mus.* p. 110 (1868) ; *id. Hand-l. B.* ii. p. 199, no. 8792

(1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 99 (1873); *Salv. Cat. Strickl. Coll.* p. 395, no. 1931 (1882).
Campias passerinus, *Cab. & Heine, Mus. Hein.* iv. p. 147 (1863).
Campias tephrodops, *Cab. & Heine, Mus. Hein.* iv. p. 145 (1863); *Pelz. Orn. Bras.* p. 246 (1870).

Adult male. Back, scapulars, rump, and upper tail-coverts golden olive, with a few very faint spots of yellow, the upper back slightly tinged with reddish; wing-coverts olive, with white sagittate spots; bastard-wing and primary-coverts dusky brown; quills dusky brown, the outer webs of the primaries, at the base, and those of the secondaries along their whole length more or less golden olive, the outer webs of the primaries spotted with buff, those of the secondaries having dull yellow spots; the inner webs of the quills with large marginal spots of white; shafts brown; tail blackish brown, the feathers spotted with brownish white on both webs, and having a barred appearance, shafts brown; base of forehead umber-brown with dull whitish spots, the remainder of the forehead, the crown, and occiput crimson; nasal plumes brown; sides of the face and neck umber-brown, the lores and a stripe above the malar region whiter; the whole of the under surface of the body from the chin to the under tail-coverts, both inclusive, olive-brown, very narrowly barred with dull white; under wing-coverts white, transversely varied with olive-dusky. Total length 5·4 inches, culmen 0·75, wing 3, tail 1·65, tarsus 0·62; toes (without claws)—outer anterior 0·46, outer posterior 0·56, inner anterior 0·4, inner posterior 0·23.

Adult female. Has no red on the head, the forehead and crown being brown with dull whitish spots, the occiput and nape washed with golden olive and spotted with yellow. Total length 5·4 inches, culmen 0·75, wing 3·05, tail 1·55, tarsus 0·6.

Hab. Guiana and Northern Brazil, east into the island of Mexiana.

a. ♂ ad. st.	Berbice, British Guiana.	Mrs. Atkins [P.].
b. ♂ ad. sk.	Cayenne.	M. Verreaux.
c. ♀ ad. sk.	Cayenne.	Sclater Coll.
d. ♂ ad. sk.	Island of Mexiana (*A. R. Wallace*).	Sclater Coll.
e. ♂ ad. sk.	Island of Mexiana, Dec. (*A. R. Wallace*).	Salvin-Godman Coll.
f. ♂ ad. st.	Brazil.	Purchased.

13. **Dendrobates tænionotus.**

Chloronerpes tænionotus, *Reichenb. Scans. Picinæ*, p. 354, no. 813, pl. dcxxv. figs. 4164–65, ♂ ♂ ad. (1854); *Gray, List Picid. Brit. Mus.* p. 110 (1868); *id. Hand-l. B.* ii. p. 199, no. 8798 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 99 (1873).
Mesopicus tænionotus, *Malh. Picidæ*, ii. p. 58 (1862).
Campias tænionotus, *Cab. & Heine, Mus. Hein.* iv. p. 149 (1863).
Picus tænionotus, *Sundev. Consp. Av. Picin.* p. 40 (1866).

Adult male. Back, scapulars, and rump bright olive golden with

faint narrow yellow bars, the upper tail-coverts rather duller in colour and having transverse spots of yellow; wing-coverts olive, with transverse yellowish-white spots; bastard-wing and primary-coverts blackish brown; primaries dusky brown, the outer webs spotted with dull white and margined with golden olive at the base, the inner webs having large marginal spots of pure white; outer webs of the secondaries golden olive with dull yellow transverse spots, the inner webs dusky brown with marginal white spots; shafts brown; tail blackish brown, the six central feathers slightly margined with olive at the base, but otherwise uniform, the lateral feathers narrowly barred across with brownish white, shafts black with brown bases; forehead umber-brown with a few minute dull white spots; crown, occiput, and nape deep scarlet, the bases of the feathers dusky grey; lores, a stripe above the eye, and another under the ear-coverts dull white; ear-coverts umber-brown; side of the neck golden, rather whiter near the ear-coverts, barred with dusky olive; from the chin to the under tail-coverts, both inclusive, olive-dusky (slightly glossed with golden on the chest), narrowly barred with dull white; under wing-coverts and axillaries white, transversely spotted and barred with blackish olive. Total length 5·7 inches, culmen 0·8, wing 3·25, tail 1·8, tarsus 0·65; toes (without claws)—outer anterior 0·5, outer posterior 0·6, inner anterior 0·38, inner posterior 0·22.

The younger male has the red on the head of a paler scarlet; the golden olive of the back and wings brighter: the back, rump, and upper tail-coverts more tinged with red and with partly exposed transverse markings of dull white; the spots on the wing-coverts are also larger, and the tail-feathers are more distinctly spotted and barred.

Adult female. Differs from the adult male in the absence of red on the head, the crown and occiput being dusky brown, inclining to rusty brown at the base of the forehead, the whole being minutely spotted with dingy white. Total length 5·5 inches, culmen 0·7, wing 3·15, tail 1·75, tarsus 0·67.

Hab. Eastern Brazil (Bahia and Pernambuco).

a. ♀ ad. sk.	Pernambuco, Brazil (*W. A. Forbes*).	Salvin-Godman Coll.
b. ♂ ad. sk.	Pernambuco.	Sclater Coll.
c. ♂ ad. sk.	Bahia, Brazil (*Dr. Wucherer*).	Salvin-Godman Coll.
d. ♂ ad. sk.	Bahia.	Sclater Coll.

14. Dendrobates frontalis.

Campias frontalis, *Cab. J. f. O.* 1883, p. 110.
Chloronerpes frontalis, *Sclat. & Huds. Arg. Orn.* ii. p. 20 (1889).

Adult female. Back, scapulars, rump, and upper tail-coverts golden olive spotted with yellow; wing-coverts olive, with yellowish-white sagittate spots; quills brownish black, the outer webs of the secondaries and the external basal margin of the primaries golden olive; outer webs of the primaries spotted with dull buffy white, those of

the secondaries spotted with yellow, the inner webs of the quills having large marginal spots of white; shafts very dark brown; tail blackish brown, the central feathers margined with olive at the base, the central pair having marginal spots of pale brown on the basal half, the remaining feathers narrowly barred with buffy brown; shafts black in the middle feathers, brown in the lateral ones; nasal plumes brown; forehead, crown, and occiput dusky brown, spotted with dull white; the nape and hind neck golden olive spotted with dull yellow; lores, a stripe above the eye, and one under the ear-coverts white, transversely spotted with black posteriorly, the ear-coverts brown, striped with paler brown; malar region dusky, spotted with white; chin and upper throat white, with a few dusky spots; side of the neck, fore neck, and the entire underparts and under tail-coverts olive-dusky, narrowly barred with dull white; under wing-coverts white, the axillaries yellower, the whole being barred with olive-dusky: "iris brown" (*Schulz*). Total length 6·3 inches, culmen 0·85, wing 3·65, tail 2·18, tarsus 0·7; toes (without claws) —outer anterior 0·48, outer posterior 0·56, inner anterior 0·4, inner posterior 0·27.

Adult male. Differs from the adult female in having the forehead brown, spotted with brownish white; the crown and occiput dull crimson, the bases of the feathers being dusky black, the nape of the same olive as the hind neck, but slightly tinged with red, and instead of being spotted both of these are striped with dull yellow. Total length 6·5 inches, culmen 0·8, wing 3·7, tail 2·2, tarsus 0·66.

Hab. Tucuman.

a, b. ♂ ♀ ad. sk.	Tucuman, Arg. Rep., July (*Schulz*).	Sclater Coll.
c. ♂ ad. sk.	Tucuman (*Schulz*).	Salvin-Godman Coll.

15. Dendrobates agilis.

Campias agilis, *Cab. & Heine, Mus. Hein.* iv. p. 147 (1863).
Picus agilis, *Sundev. Consp. Av. Picin.* p. 40 (1866).
Chloronerpes agilis, *Gray, List Picid. Brit. Mus.* p. 110 (1868); *id. Hand-l. B.* ii. p. 199, no. 8799 (1870).

Adult female. Back, rump, scapulars, and wing-coverts golden olive, the rump barred, the remainder having stripe-like spots of yellow, the spots on the median coverts partly surrounded with red; upper tail-coverts barred blackish olive and golden olive, with reddish tips, and having yellow shaft-stripes; quills dusky brown, the outer webs of the secondaries and those of the inner primaries on more or less of their basal margin golden olive spotted with yellow, the apical portion of the outer webs of the primaries spotted with fulvescent white; inner webs of the quills spotted with white, and the shafts black; tail blackish brown, barred with brownish buff, shafts black; nasal plumes brown; the forehead, crown, and occiput also brown and spotted with dull white; nape and hind neck like the back, with longitudinal spots of yellow; lores and face yellowish

white, the malar region with transverse markings of olive, the ear-coverts yellowish olive, striped with dusky black; chin and upper throat white, spotted with olive, the remainder of the neck and the whole of the underparts and under tail-coverts fulvescent white, barred with olive; under wing-coverts creamy white, with a few olive spots. Total length 5·2 inches, culmen 0·75, wing 3·27, tail 1·68, tarsus 0·63; toes (without claws)—outer anterior 0·38, outer posterior 0·55, inner anterior 0·32, inner posterior 0·23.

Adult male. Differs from the adult female in having the feathers of the upper part of the forehead, crown, and occiput tipped with scarlet, the base of the forehead spotted with smoky white. Total length 5·5 inches, culmen 0·86, wing 3·2, tail 1·8, tarsus 0·72.

Hab. North-eastern Peru and Eastern Ecuador, north to Santa Fé de Bogotá, Colombia.

a. ♂ juv. sk. Yquitos, Peru, Oct. (*H. Whitely*). Sclater Coll.

16. **Dendrobates olivinus.**

Picus olivinus, *Malh. Mém. Soc. Roy. Sc. Liége*, 1845, p. 67; *Sundev. Consp. Av. Picin.* p. 40 (1866).
Eleopicus olivinus, *Bp. Consp. Volucr. Zygod.* p. 10, no. 161 (1854).
Mesopicus olivinus, *Malh. Picidæ*, ii. p. 65, pl. lix. figs. 4, 5, ♂ ♀ (1862).
Phæonerpes olivinus, *Cab. & Heine, Mus. Hein.* iv. p. 140 (1863).
Chloronerpes olivinus, *Gray, List Picid. Brit. Mus.* p. 111 (1868); *id. Hand-l. B.* ii. p. 200, no. 8804 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 99 (1873); *Salv. Cat. Strickl. Coll.* p. 395, no. 1932 (1882).
Campias olivinus, *Pelz. Orn. Bras.* p. 246 (1870); *id. & Lorenz, Ann. k. k. Naturh. Hofm.* iii. Th. iv. p. 44 (1888).

Adult male. Back, scapulars, rump, and upper tail-coverts olive-golden, the rump having faint and narrow yellow bars; wing-coverts golden olive, spotted with white or yellowish white; bastard-wing and primary-coverts brown; quills brown, the outer webs of the primaries at the base and those of the secondaries along their whole length margined with golden olive; the outer webs of the primaries spotted with dull white, the inner webs with larger and whiter spots on the basal half, the outer webs of the secondaries spotted with dull yellow, the inner webs having transverse spots of pure white; shafts orange-brown; tail dark brown, both webs of the feathers having marginal spots of brownish white, giving the tail a barred appearance; shafts blackish brown; forehead and crown pale umber-brown, with dull whitish spots; occiput and nape brilliant scarlet; hind neck like the back; face pale umber-brown, shading into golden olive on the side of the neck, the latter being crossed by a few indistinct whitish bars; lores and a stripe above the malar region dull white; malar stripe brownish dusky; chin dull white, striped with pale brown; throat, fore neck, and the whole of the under surface of the body pale brown with an olivaceous tinge, and narrowly barred with white, more or less fulvescent; under

tail-coverts darker brown, barred with dull white; under wing-coverts white, the edge of the wing and the axillaries pale olivaceous brown, crossed by dull white bars or transverse spots. Total length 5·8 inches, culmen 0·75, wing 3·45, tail 1·85, tarsus 0·68; toes (without claws)—outer anterior 0·5, outer posterior 0·57, inner anterior 0·4, inner posterior 0·26.

Adult female. Wants the red upon the occiput and nape, the forehead and crown being dusky brown, becoming more olive on the occiput and nape, the whole being faintly spotted with dusky white or posteriorly with yellowish. Total length 6 inches, culmen 0·78, wing 3·6, tail 2, tarsus 0·67.

Hab. Interior of Brazil (Provinces of Goyaz, Matto Grosso, and Amazonas); extending into Bolivia and south into the Province of Corrientes, Argentine Republic.

a. ♀ ad. sk.	Corrientes.	Sclater Coll.
b. ♂ ad. sk.	Engenho do Gama, Matto Grosso, Sept. (*J. Natterer*).	Sclater Coll.
c–f. ♂ ad.; *g–i.* ♀ ad. et juv. sk.	Chapada, Matto Grosso, Mar., May, July, Aug. (*H. Smith*).	Salvin-Godman Coll.
k. ♂ ad. sk.	Caiçara, Brazil, Dec. (*J. Natterer*).	Salvin-Godman Coll.
l. ♀ ad. sk.	Bolivia.	T. Bridges [C.].

17. **Dendrobates fidelis.** (Plate VII.)

Dendrobates fidelis, *Harg. Ibis*, 1889, p. 59.

Adult male. Back, rump, and upper tail-coverts, scapulars and wing-coverts bright golden olive, narrowly striped with yellow, the median series of the wing-coverts and the upper tail-coverts tipped with dull red, and the rump having concealed transverse spots or bars of white; bastard-wing and primary-coverts blackish brown, externally margined with olive; quills blackish brown, the entire outer webs of the secondaries and those of the primaries at their base bright golden olive; inner webs of the quills spotted with white; shafts black; tail brownish black, the central pair of feathers uniform, the remainder having whitish bar-like spots on the inner webs, shafts black; nasal plumes and forehead brown, the latter with a few minute buffy-white stripes; crown, occiput, and nape scarlet; lores, a stripe above the eye and another below the eye white, the remainder of the face olive-brown, with hair-like stripes of white; side of the neck olive, spotted with yellow; malar region, chin, and throat olive-dusky, spotted with dull white; from the fore neck to the under tail-coverts, both inclusive, olive, the fore neck, chest, and upper breast with stripes or longitudinal spots of dull fulvescent white, the remainder narrowly barred with dull fulvescent white; under wing-coverts white, with a few olive spots. Total length 5·3 inches, culmen 0·8, wing 3, tail 1·7, tarsus 0·68; toes (without claws)—outer anterior 0·47, outer posterior 0·6, inner anterior 0·4, inner posterior 0·25.

Adult female. Has the forehead, crown, and occiput dusky brown,

the two latter having short hair-like stripes of yellowish white, the nape with broader and yellower stripe-like spots. Total length 5·2 inches, culmen 0·72, wing 3·15, tail 1·9, tarsus 0·65.

Hab. U.S. Colombia (Santa Fé de Bogotá).

a. ♂ ad. sk.	Bogotá.	Purchased.	(Type of species.)
b. ♂ imm. sk.	Bogotá.	Salvin-Godman Coll.	
c. ♀ ad. sk.	Bogotá.	Sclater Coll.	

18. **Dendrobates spilogaster.**

? Picus squamosus *, *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 74 (1818); *id. & Bonn. Enc. Méth.* iii. p. 1307 (1823); *Wagl. Syst. Av.* Picus, sp. 57 (1827).

Picus spilogaster, *Wagl. Syst. Av.* Picus, sp. 59 (1827); *Sundev. Consp. Av. Picin.* p. 41 (1866).

Chloronerpes spilogaster, *Gray, Gen. B.* ii. p. 443 (1846); *Bp. Consp. Gen. Av.* i. p. 117 (1850); *id. Consp. Volucr. Zygod.* p. 9, no. 157 (1854); *Reichenb. Scans. Picinæ*, p. 355, no. 818 (1854); *Gray, List Picid. Brit. Mus.* p. 110 (1868); *id. Hand-l. B.* ii. p. 200, no. 8800 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 99 (1873).

? Chloronerpes squamosus, *Gray, Gen. B.* ii. p. 443 (1846); *Bp. Consp. Gen. Av.* i. p. 117 (1850); *Reichenb. Scans. Picinæ*, p. 355, no. 817 (1854).

Chloronerpes ruficeps (*non Spix*), *Reichenb. Scans. Picinæ*, p. 353, no. 812, pl. dcxxii. figs. 4146–47 (1854).

Eleopicus adspersus, *Bp. Consp. Volucr. Zygod.* p. 10, no. 162 (1854).

Mesopicus spilogaster, *Malh. Picidæ*, ii. p. 62 (1862) (*ex Wagl.*).

Mesopicus adspersus, *Malh. Picidæ*, ii. p. 64, pl. lx. figs. 7, 8 (1862).

Chloronerpes adspersus, *Sclat. Cat. Amer. B.* p. 337, no. 2014 (1862).

Campias spilogaster, *Cab. & Heine, Mus. Hein.* iv. p. 156 (1863); *Pelz. Orn. Bras.* p. 247 (1870); *Berl. J. f. O.* 1873, p. 281.

Adult male. Back, rump, scapulars, wing-coverts, outer webs of primaries at the base, and almost entire outer webs of secondaries olive, the upper parts barred and spotted with yellow and having brighter yellow shaft-stripes, the wing-coverts and outer webs of quills spotted with yellow; inner webs of quills spotted with white; shafts blackish brown; upper series of upper tail-coverts olive, the lower series barred black and brownish white and margined with olive, the whole being spotted with yellow; tail brownish black barred with buff, the shafts brownish black; nasal plumes rufous buff; forehead, crown, and occiput brownish black, the forehead having longitudinal spots of buffy white, the crown and occiput striped with red, and the feathers with yellow shaft-stripes, the nape and hind neck olive, also with yellow shaft-stripes; lores and a stripe above the eye and running down the side of the neck and another passing under the ear-coverts and down the side of the neck white, and between these a broad stripe of dusky olive; malar region dusky striped with greyish white, and behind this a dusky-olive stripe; lower side of the neck dusky olive, spotted and striped with

* This is possibly the present species, but the description is inaccurate and the habitat wrong. I therefore adopt the title of *D. spilogaster* (Wagl.).

yellowish white; chin and throat white striped with olive-dusky; entire underparts, under tail-coverts, and under wing-coverts dusky olive; the chest, breast, sides of the body, flanks, and under wing-coverts spotted with yellowish white, the remainder barred with the same. Total length 6·8 inches, culmen 0·97, wing 3·9, tail 2·27, tarsus 0·75; toes (without claws)—outer anterior 0·52, outer posterior 0·6, inner anterior 0·45, inner posterior 0·25.

Immature male. Resembles the adult of the same sex, but has the underparts less fulvescent, and the ground of the face and neck white, the superciliary stripe as well as the stripe below the ear-coverts showing very conspicuously; the spots on the forehead whiter, and the crown-feathers, in addition to their red tips, having very distinct white shaft-stripes; the back presents a more barred appearance, and the yellow transverse markings are narrower, as are also the light bars and transverse spots on the wings and tail.

Adult female. Differs from the adult male in the absence of red on the head, the forehead, crown, occiput, and nape being brownish black, each feather having a white shaft-stripe terminating in a spot. Total length 6·4 inches, culmen 0·97, wing 3·75, tail 1·75, tarsus 0·7.

Hab. São Paulo and the more southerly provinces of Brazil; Uruguay, south to Monte Video, and the eastern part of the Argentine Republic (Misiones).

a. ♂ ad. sk.	Brazil.	Sclater Coll.
b. ♀ ad. sk.	Ypanema, S.E. Brazil, June (*J. Natterer*).	Sclater Coll.
c, d. ♂ ad. sk.	Pelotas, Rio Grande do Sul (*Joyner*)	Salvin-Godman Coll.
e. ♂ imm. sk.	Paysandu, August.	Alan Peel, Esq. [P.].
f. ♂ ad. sk.	San Javier, Misiones, Arg. Rep., June (*E. W. White*).	Sclater Coll.

19. Dendrobates maculifrons.

Picus affinis, ♀ *nec* ♂, *Swains. Zool. Ill.* ii. (*nec* pl. 78), (1821–22); *Wagl. Syst. Av.* Picus, sp. 61, ♀ only (1827); *Sundev. Consp. Av. Picin.* p. 37 (1866).

Picus maculifrons, *Spix, Av. Bras.* i. p. 62, pl. lvi. figs. 1, ♀ (1824).

Picus passerinus, ♂ juv., *Wagl. Syst. Av.* Picus, sp. 60 (♂ ad.) (1827).

Chloronerpes affinis (*non Swains.*), *Sclat. Cat. Amer. B.* p. 337, no. 2012 (1862); *id. & Salv. Nomencl. Av. Neotr.* p. 99 (1873); *Salv. Cat. Strickl. Coll.* p. 394, no. 1929 (1882); *Sclat. & Huds. Arg. Orn.* ii. p. 20 (1889).

Mesopicus affinis (*non Swains.*), *Malh. Picidæ*, ii. p. 56, pl. lxi. figs. 6 ♂, 7 ♀ (1862).

Campias maculifrons, *Cab. & Heine, Mus. Hein.* iv. p. 148 (1863; *Pelz. Orn. Bras.* p. 245 (1870).

Picus albipes, *Sundev. Consp. Av. Picin.* p. 37 (1866).

Chloronerpes maculifrons, *Gray, List Picid. Brit. Mus.* p. 108 (1868); *id. Hand-l. B.* ii. p. 199, no. 8787 (1870).

Chloronerpes albipes, *Gray, List Picid. Brit. Mus.* p. 108 (1868); *id. Hand-l. B.* ii. p. 199, no. 8793 (1870).

Adult male. Back, rump, and upper tail-coverts, scapulars and wing-coverts light golden olive, covered with longitudinal spots of yellow; outer webs of secondaries and of primaries at the base light golden olive, the remaining portion of the quills blackish brown, the outer webs spotted with yellowish, the spots being almost obsolete on the secondaries; shafts blackish brown; tail blackish brown, the central feathers spotted with greenish buff, the lateral ones transversely spotted and barred with buff, shafts brown with black tips; nasal plumes brown; sinciput blackish brown striped with buffy white, the feathers of the hind crown and occiput tipped with scarlet, the outer edge of the occiput and the nape golden yellow, this colour spreading on to the side of the neck; lores white; face olive-dusky striped with white; chin and throat white, with olive-dusky longitudinal spots; sides of the neck and the whole under surface of the body and under tail-coverts olive-dusky barred with fulvescent white; under wing-coverts yellowish white with a few dusky-olive spots, the edge of the wing varied with blackish olive. Total length 6·3 inches, culmen 0·86, wing 3·55, tail 1·9, tarsus 0·7; toes (without claws)—outer anterior 0·5, outer posterior 0·63, inner anterior 0·4, inner posterior 0·25.

Adult female. Differs from the adult male in having the forehead, crown, and occiput blackish brown with short stripes of dull white. Total length 6·3 inches, culmen 0·85, wing 3·72, tail 2·05, tarsus 0·7.

Hab. Brazil (Bahia)*.

a. ♂ ad. st.	Brazil.	M. Claussen [P.].
b. ♂ ad, sk.	Brazil.	M. Claussen [P.].
c, d. ♂ ad.; *e.* ♀ ad. sk.	Brazil.	Purchased.
f, g. ♂ ♀ ad. sk.	Brazil.	Sclater Coll.
h, i. ♂ ad.; *k.* ♀ ad. sk.	Bahia.	Gould Coll.

20. Dendrobates cassini.

Mesopicus cassini, *Malh. Picidæ*, ii. p. 55, pl. lviii. figs. 2, 3, ♂ ♂ (1862).
Campias sedulus, *Cab. & Heine, Mus. Hein.* iv. p. 153 (1863).
Campias cassini, *Cab. & Heine, Mus. Hein.* iv. p. 149 (1863).
Picus cassini, *Sundev. Consp. Av. Picin.* p. 39 (1866).
Picus sedulus, *Sundev. Consp. Av. Picin.* p. 39 (1866).
Chloronerpes cassini, *Gray, List Picid. Brit. Mus.* p. 109 (1868); *id. Hand-l. B.* ii. p. 199, no. 8791 (1870).
Chloronerpes sedulus, *Gray, List Picid. Brit. Mus.* p. 109 (1868); *id. Hand-l. B.* ii. p. 199, no. 8790 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 99 (1873); *Salv. Ibis*, 1886, p. 58.

Adult male. Back, rump and upper tail-coverts, scapulars and wing-coverts, outer webs of secondaries and of primaries at the

* Messrs. Sclater and Hudson include this species in their 'Argentine Ornithology' relying upon the identification by Mr. White of a pair obtained by him at Campo Santo in Salta. The authors, however, say that Mr. White's determination requires confirmation.

base golden olive, the wing-coverts with longitudinal spots of yellow; remaining portion of quills brownish black, the inner webs having large rounded spots of white; shafts brown; tail brownish black, the central feathers margined at the base with olive and spotted on both webs with greenish brown, the remaining feathers spotted with brown on the outer webs and with buff or brownish white on the inner webs; shafts black; nasal plumes and forehead brown, the latter with brownish-white spots; crown and occiput crimson, the bases of the feathers nearly black; nuchal band yellow, this colour extending on to the side of the neck in stripes; face, chin, and throat drabby white, the ear-coverts and above broadly striped with blackish brown; the malar region, chin, and throat spotted with black; side of the neck, fore neck, entire underparts, and under tail-coverts buffy white barred with black, the light interspaces on the chest more buffy in colour; under wing-coverts and axillaries buffy white or slightly yellowish, with transverse and varied markings of olive-black. Total length 6·3 inches, culmen 0·85, wing 3·8, tail 2·25, tarsus 0·7; toes (without claws)—outer anterior 0·47, outer posterior 0·57, inner anterior 0·4, inner posterior 0·25.

Adult female. Differs from the adult male in the absence of red on the head, the forehead, crown, and occiput being blackish brown, the feathers faintly tipped with dull olive. Total length 6·3 inches, culmen 0·85, wing 3·65, tail 2·05, tarsus 0·65.

Hab. Guiana.

a, b. ♂ ad. sk.	Bartica Grove, British Guiana, Sept., Nov. (*H. Whitely*).	Salvin-Godman Coll.
c. ♂ ad. sk.	Bartica Grove, Nov. (*H. W.*)	Sclater Coll.
d. ♂ ad. sk.	Roraima, British Guiana, Jan. (*H. Whitely*).	Salvin-Godman Coll.
e. ♀ imm. sk.	Merumé Mts., British Guiana, June (*H. Whitely*).	Salvin-Godman Coll.
f, g. ♂ ♀ ad. sk.	Takutu R., British Guiana, Feb., March (*H. Whitely.*).	Salvin-Godman Coll.
h. ♀ ad. sk.	Guiana (*Brown*).	Sclater Coll.
i. ♂ ad. sk.	Cayenne.	Purchased.
k. ♂ ad. sk.	Oyapoc, Cayenne.	Salvin-Godman Coll.

21. Dendrobates ruficeps.

Picus ruficeps, *Spix, Av. Bras.* i. p. 63, pl. lvi. figs. 2, 3, ♂ ♀ (1824).
Campias ruficeps, *Cab. & Heine, Mus. Hein.* iv. p. 153 (1863).
Chloronerpes hæmatostigma (*non Malh.*), *Sclat. & Salv. P. Z. S.* 1867, pp. 587, 595; *Sclat. Cat. Amer. B.* p. 338, no. 2017 (1862).
Chloronerpes ruficeps, *Gray, List Picid. Brit. Mus.* p. 109 (1868); *id. Hand-l. B.* ii. p. 199, no. 8796 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 99 (1873); *Layard, Ibis*, 1873, p. 390.
Campias ruficeps, var. *a, Pelz. Orn. Bras.* p. 245 (1870).

Adult male. Back and scapulars deep golden olive, the feathers washed with blood-red on the tip; rump of the same olive colour as the back, but spotted with yellow and slightly tinged with red;

upper tail-coverts dusky olive, with yellower bars and an indication of a lighter shaft-spot; wing-coverts deep golden olive tipped with blood-red, the outermost having pinkish-buff sagittate spots, these forming two rows; bastard-wing and primary-coverts brownish black, margined externally with olive; quills blackish brown, the outer webs of the secondaries and the inner webs at the tip, also the outer webs of the primaries at the base golden olive, the outer webs of the outer primaries having one or two buffy spots on the apical portion; the inner webs of the quills with large marginal spots of white; shafts dark brown: tail-feathers black, with bar-like spots of buff on both webs, the lateral feathers being more distinctly barred across both webs; shafts black, brown at the base; nasal tufts and base of forehead brown; the coronal and occipital feathers crimson with black bases, the nuchal feathers crimson with ochreous golden bases; hind neck like the back; lores and sides of the face and neck ochreous yellow, becoming more golden on the side of the neck, the ear-coverts brown; chin and throat pale ochreous, spotted, more or less transversely, with dusky black; the whole of the under surface of the body and under tail-coverts ochreous white barred with black slightly tinged with olive; under wing-coverts and axillaries yellowish white spotted with olive-black. Total length 6·3 inches, culmen 0·85, wing 3·6, tail 2·05, tarsus 0·68; toes (without claws)—outer anterior 0·53, outer posterior 0·6, inner anterior 0·44, inner posterior 0·23.

Adult female. Has the forehead, crown, and occiput dusky brown, slightly olive posteriorly, the forehead having a few minute brownish-white spots. Total length 6 inches, culmen 0·87, wing 3·5, tail 1·76, tarsus 0·68.

Hab. Northern and North-eastern Brazil.

a, b. ♂ ♀ imm. sk.	Para, Lower Amazons, Dec. (*E. L. Layard*).	Tweeddale Coll.
c. ♂ imm.; *d.* ♀ ad. sk.	Rio Tocantins, Brazil (*A. R. Wallace*).	Sclater Coll.
e. ♂ ad. sk.	Pernambuco, Brazil (*W. A. Forbes*).	Salvin-Godman Coll.

22. Dendrobates affinis.

Carpintero pardo dorado, *Azara, Apunt. Hist. Nat. Páxar. Parag.* ii. p. 321, no. 258 (1805).

Picus affinis, *Swains. Zool. Ill.* ii. descr. of ♂, pl. 78, not ♀ (1821–22); *Steph. Gen. Zool.* xiv. p. 167 (1826); ♂ & pull. *Wagl. Syst. Av.* Picus, sp. 61, ♂ ♀ ad. (1827); *Swains. Faun. Bor.-Amer.* ii. p. 301 (1831).

Picus passerinus (*non Linn.*), *Licht. Verz. Doubl.* p. 10 (1823); *Neuwied, Beitr. Naturg. Bras.* iv. p. 431 (1832).

Chloronerpes affinis, *Gray, Gen. B.* ii. p. 443 (1846); *Bp. Consp. Gen. Av.* i. p. 117 (1850); *Reichenb. Scans. Picinæ*, p. 353, no. 811, pl. dcxxiv. figs. 4159–60, ♂ ♀ ad. (1854); *Gray, List Picid. Brit. Mus.* p. 108 (1868); *id. Hand-l. B.* ii. p. 199, no. 8794 (1870).

Dendrobates passerinus (*non Linn.*), *Hartl. Ind. Azara*, p. 17, no. 258 (1847).
Eleopicus affinis, *Bp. Consp. Volucr. Zygod.* p. 10, no. 164 (1854).
Chloronerpes selysii (*Malh.*), *Sclat. P. Z. S.* 1858, p. 74; *id. Cat. Amer. B.* p. 337, no. 2015 (1862); *Gray, List Picid. Brit. Mus.* p. 108 (1868); *id. Hand-l. B.* ii. p. 199, no. 8788 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 99 (1873); *Salv. Cat. Strickl. Coll.* p. 395, no. 1930 (1882).
Mesopicus selysii, *Malh. Picidæ*, ii. p. 67, pl. lxii. figs. 1, 2, ♂ ♀ ad. (1862).
Campias affinis, *Cab. & Heine, Mus. Hein.* iv. p. 151 (1863).
Picus selysii, *Sundev. Consp. Av. Picin.* p. 38 (1866).
Campias selysii, *Pelz. Orn. Bras.* p. 245 (1870).

Adult male. Back, rump, and upper tail-coverts, scapulars, wing-coverts, outer webs of secondaries and of primaries at the base golden olive, the back slightly tinged with red, the rump and upper tail-coverts with a few longitudinal spots of yellow, and the wing-coverts with sagittate spots of yellow occasionally washed with red; outer webs of primaries spotted with buff, those of the secondaries having almost obsolete yellow spots, the inner webs of the quills spotted with buffy white; shafts brown; tail brownish black, the central feathers olive on the basal margin and transversely spotted with brownish buff, the lateral feathers barred with the same, but lighter on the inner webs, shafts brown with black tips: nasal plumes brown; forehead, crown, and occiput crimson, the bases of the feathers nearly black; face and upper side of the neck ochreous, the ear-coverts with lighter shaft-stripes, the nuchal band golden; chin and upper throat dull buff spotted with brown; lower side of the neck, throat, fore neck, and the entire underparts and under tail-coverts buff, barred with dusky brown; under wing-coverts and axillaries buffy white or yellowish, with transverse spots of blackish olive. Total length 6·5 inches, culmen 0·92, wing 3·65, tail 2·15, tarsus 0·6; toes (without claws)—outer anterior 0·4, outer posterior 0·55, inner anterior 0·4, inner posterior 0·23.

Adult female. Has no red on the head, the feathers of the forehead and crown being dusky brown faintly tipped with olive, those of the occiput being also dusky brown but having bright golden tips. Total length 6·5 inches, culmen 0·87, wing 3·67, tail 2·25, tarsus 0·68.

Young. Have the malar region spotted, like the chin and throat.

Hab. Eastern Brazil (Provinces of Bahia, Rio Janeiro, and Goyaz).

a, b. ♂ ♀ imm.; *c.* ♀ ad. sk.	Brazil.	Tweeddale Coll.
d, e. ♂ ad. et imm.; *f.* ♀ ad. sk.	Brazil.	Sclater Coll.
g, h. ♀ ad. sk.	Bahia, Brazil.	Purchased.
i–l. ♂ ad. et imm.; *m–o.* ♀ ad. et imm. sk.	Bahia (*Dr. Wucherer*).	Salvin-Godman Coll.

p, q. ♂ ♀ ad. sk.	Bahia (*Berlepsch*).	Sclater Coll.
r. ♂ imm. sk.	Rio Claro, Prov. Goyaz, S.E. Brazil (*Joyner*).	Salvin-Godman Coll.

23. Dendrobates hæmatostigma.

Picus passerinus (*non Linn.*), *Tschudi, Av. Consp. Rep. Peruan. in Arch. für Naturg.* 1844, p. 303, no. 249; *Cab. in Tschudi's Faun. Peruan., Aves*, pp. 43, 265 (1845–46).
Mesopicus hæmatostigma, *Malh. Picidæ*, ii. p. 72, pl. lxi. figs. 2–5, ♂ ♀ ♀ ♂ (1862).
Campias hilaris, *Cab. & Heine, Mus. Hein.* iv. p. 154 (1863).
Picus hæmatostigma, *Sundev. Consp. Av. Picin.* p. 38 (1866).
Chloronerpes hæmatostigma, *Sclat. & Salv. P. Z. S.* 1866, p. 197, 1867, p. 753; *Gray, List Picid. Brit. Mus.* p. 109 (1868); *id. Hand-l. B.* ii. p. 199, no. 8789 (1870); *Tacz. P. Z. S.* 1882, p. 42.
Chloronerpes hilaris, *Gray, List Picid. Brit. Mus.* p. 109 (1868); *id. Hand-l. B.* ii. p. 199, no. 8795 (1870); *Sclat. P. Z. S.* 1873, p. 780; *id. & Salv. Nomencl. Av. Neotr.* p. 99 (1873); *Tacz. Orn. Pérou*, iii. p. 81 (1886).
Campias ruficeps, var. *b, Pelz. Orn. Bras.* p. 246 (1870).
Chloronerpes ruficeps (*non Spix*), *Sclat. & Salv. P. Z. S.* 1879, p. 632.

Adult male. Very much resembles *D. ruficeps*, but differs in the back and scapulars having only a just perceptible red tinge; the wing-coverts without spots, but with a yellowish shaft-line showing through the red on the tip; a pale ochreous stripe from the nostrils passes under the ear-coverts; sides of the face and neck dusky olive striped with ochreous white or yellowish; the malar region spotted like the chin and upper throat, the lower throat being barred like the underparts. Total length 6·3 inches, culmen 0·82, wing 3·65, tail 2·05, tarsus 0·66; toes (without claws)—outer anterior 0·48, outer posterior 0·6, inner anterior 0·42, inner posterior 0·25.

Adult female. Differs from the adult male in having the crown and occiput olive-brown, shading into rusty brown on the forehead. Total length 6 inches, culmen 0·85, wing 3·9, tail 2, tarsus 0·68.

Hab. Eastern Ecuador and Peru; Bolivia, and ranging into West Brazil (Rio Madeira).

a. ♂ ad. sk.	Rio Napo, Ecuador.	Purchased.
b. ♂ ad.; *c.* ♀ imm. sk.	Sarayacu, Ecuador (*C. Buckley*).	Salvin-Godman Coll.
d. ♀ imm. sk.	Sarayacu, Ecuador (*C. Buckley*).	Sclater Coll.
e. ♂ imm. sk.	Upper Amazons.	Sclater Coll.
f. ♂ imm. sk.	Yquitos, E. Peru, Aug. (*H. Whitely*).	Salvin-Godman Coll.
g. ♂ ad. sk.	Chamicuros, Peruvian Amazons, Sept.	E. Bartlett [C.].
h. ♂ ad. sk.	Xeberos, E. Peru, June (*E. Bartlett*).	Salvin-Godman Coll.
i. ♀ imm. sk.	Sarayacu, E. Peru, June 3rd, 1865.	E. Bartlett [C.].

k, l. ♂ ♀ ad. sk.	Simacu, Bolivia (*C. Buckley*).	Salvin-Godman Coll.
m. ♂ ad. sk.	Destacamento do Ribeiroa, W. Brazil, Sept. (*J. Natterer*).	Sclater Coll.

24. Dendrobates kirki.

Chloropicus kirkii, *Malh. Rev. Zool.* 1845, p. 400.
Chloronerpes kirkii, *Gray, Gen. B.* ii. p. 443 (1846); *Bp. Consp. Gen. Av.* i. p. 117 (1850); *Reichenb. Scans. Picinæ*, p. 352, no. 808, pl. dcxxv. fig. 4163, ♂ (1854); *Sclat. Cat. Amer. B.* p. 338, no. 2018 (1862); *Léot. Ois. Trinid.* p. 339 (1866); *Sclat. & Salv. P. Z. S.* 1868, p. 629; *Gray, List Picid. Brit. Mus.* p. 113 (1868); *id. Hand-l. B.* ii. p. 200, no. 8811 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 99 (1873); *Salv. Ibis*, 1886, p. 58.
Chrysoptilus kirkii, *Jard. Ann. Nat. Hist.* 1847, p. 333; *id. Contr. Orn.* pl. 2, ♂ (1848–52).
Mesopicos kirkii, *Malh. N. Classif., Mém. Acad. Metz*, p. 341 (1848–49).
Venilia kirkii, *Bp. Consp. Volucr. Zygod.* p. 10, no. 159 (1854).
Mesopicus kirkii, *Malh. Picidæ*, ii. p. 70, pl. lix. figs. 7, 8, ♂ ♀ ad. (1862).
Erythronerpes kirki, *Cab. & Heine, Mus. Hein.* iv. p. 144 (1863).
Picus kirkii, *Sundev. Consp. Av. Picin.* p. 36 (1866).

Adult male. Back, scapulars, and wing-coverts rich golden olive, sometimes tinged with red, the median series of the coverts spotted with yellow and frequently having their apical portion red; rump and upper tail-coverts vermilion-red; quills blackish brown, the outer webs of the secondaries and of the primaries at the base golden olive, the inner webs spotted with white; shafts black; tail brownish black, the central pair of feathers margined with golden olive at the base and unspotted, the remainder with brownish-white or obscure brown spots on the inner or upon both webs; shafts black, with brown bases; nasal plumes brown; forehead, crown, and occiput vermilion; nape varied with yellow; lores and face white, striped with olive-black, the ear-coverts dusky brown; side of the neck blackish olive, striped with yellow; chin and throat white, spotted with olive-black; entire underparts, from the throat downwards, and the under tail-coverts blackish olive barred with fulvescent white; under wing-coverts and axillaries yellowish or buffy white, transversely spotted with blackish olive. Total length 6·3 inches, culmen 0·93, wing 3·43, tail 2·1, tarsus 0·67; toes (without claws)—outer anterior 0·45, outer posterior 0·6, inner anterior 0·37, inner posterior 0·25.

Adult female. Has the feathers of the forehead, crown, and occiput brownish black with lighter brown tips, the outer edge of the occiput striped with yellow, the nuchal feathers having golden-yellow tips and brownish-black bases. Total length 6·3 inches, culmen 0·9, wing 3·5, tail 2·15, tarsus 0·65.

Hab. Venezuela and British Guiana; also the islands of Trinidad and Tobago.

a. Ad. st.	Island of Tobago.	Purchased.
b. ♂ ad. sk.	Trinidad.	Sclater Coll.
c, *d*. ♂ ♀ ad. sk.	Venezuela.	Salvin-Godman Coll.
e. ♀ imm. sk.	San Esteban, Venezuela (*A. Goering*).	Sclater Coll.
f, *g*. ♀ ad. sk.	Roraima, British Guiana, Aug., Sept. (*H. Whitely*).	Salvin-Godman Coll.

25. Dendrobates ceciliæ.

Mesopicos cecilii, *Malh. Rev. et Mag. de Zool.* 1849, p. 538; *id. N. Classif., Mém. Acad. Metz*, 1848–9, p. 341.

Chloronerpes cecilii, *Bp. Consp. Gen. Av.* i. p. 117 (1850); *Reichenb. Scans. Picinæ*, p. 352, no. 829 (1854); *Sclat. P. Z. S.* 1855, p. 161, 1856, p. 143, 1860, pp. 286, 297; *Gray, List Picid. Brit. Mus.* p. 114 (1868); *id. Hand-l. B.* ii. p. 200, no. 8812 (1870).

Venilia cecilii, *Bp. Consp. Volucr. Zygod.* p. 10, no. 160 (1854).

Mesopicus ceciliæ, *Malh. Picidæ*, ii. p. 71, pl. lx. figs. 1 ♂, 2 ♀ (1862).

Chloronerpes ceciliæ, *Sclat. Cat. Amer. B.* p. 338, no. 2019 (1862); *Salv. P. Z. S.* 1867, p. 157, 1870, p. 213; *id. & Sclat. Nomencl. Av. Neotr.* p. 99 (1873); *üd. P. Z. S.* 1879, p. 533; *Berl. & Tacz. op. cit.* 1883, p. 571.

Erythronerpes ceciliæ, *Cab. & Heine, Mus. Hein.* iv. p. 143 (1863).

Picus ceciliæ, *Sunder. Consp. Av. Picin.* p. 36 (1866).

Adult male. Has the rump and upper tail-coverts red, and the colour, generally, as in *D. kirki*, but differs from the latter species in having the wing-coverts devoid of yellow spots; the malar region, chin, and upper throat conspicuously whiter and with only a few dusky spots; the bill much lighter at the tip, and the entire dimensions considerably less: "iris brown" (*Siemiradski*). Total length 5·5 inches, culmen 0·82, wing 3·35, tail 1·78, tarsus 0·67; toes (without claws)—outer anterior 0·55, outer posterior 0·58, inner anterior 0·4, inner posterior 0·28.

Immature male. In addition to its less brilliant coloration, it differs from the adult in the rump having a mottled appearance, caused by the feathers having, as well as the red tip, a dusky-olive crescentic marking and a yellowish spot, the latter being more or less exposed.

Adult female. Differs from the adult male in having the forehead, crown, and occiput blackish brown, the feathers of the forehead and crown with paler umber-brown tips, those of the occiput having minute whitish stripe-like spots. Total length 5·5 inches, culmen 0·68, wing 3·26, tail 1·96, tarsus 0·57.

Hab. Colombia and Western Ecuador; north into the Province of Chiriqui.

a. ♂ ad. sk.	Mina de Chorcha, Chiriqui, Veragua (*E. Arcé*).	Salvin-Godman Coll.
b. ♂ ad. sk.	Bibaláz, Chiriqui (*E. Arcé*).	Salvin-Godman Coll.
c. ♀ ad. sk.	New Granada.	Purchased.
d. ♂ ad. sk.	New Granada.	Salvin-Godman Coll.
e, *f*. ♂ ad.; *g*. ♀ ad. sk.	Bogotá.	Salvin-Godman Coll.

h. ♂ ad. sk.	Bogotá.	Sclater Coll.
i. ♂ imm.; *k*. ♀ ad. sk.	Antioquia, U. S. Colombia (*T. K. Salmon*).	Salvin-Godman Coll.
l, *m*. ♂ ♀ ad. sk.	Antioquia (*T. K. Salmon*).	Sclater Coll.

24. MESOPICUS.

	Type.
Mesopicos, *Malh. Mém. Acad. Metz*, 1848–49, p. 340	M. goertan.
Scolecotheres, *Reichenb. Scans. Picinæ*, p. 427 (1854)	M. griseocephalus.
Camponomus, *Cab. & Heine, Mus. Hein.* iv. p. 137 (1863)	M. pyrrhogaster.
Polipicus, *Cass. Proc. Acad. Philad.* 1863, p. 196.	M. ellioti.

Bill of *Mesopicus goertan*.

Range. Senegambia to Angola and east through Equatorial Africa to Abyssinia and Massai-Land. From Angola ranges in a south-easterly direction into the Transvaal and extreme south of Cape Colony.

*Key to the Species**.

A. Rump and upper tail-coverts red.

a'. Underparts uniform, or with only a trace of dusky bars posteriorly; with no auricular or malar stripes.

a''. Head and neck silver-grey or bluish grey, the underparts yellowish grey; one or more of the lateral tail-feathers always spotted or partially barred on both webs.

a'''. Middle of the abdomen yellow, orange, or reddish.

*a*¹. Crown and occiput red ..... *goertan* ♂ ad., p. 369.

*b*¹. With no red on the crown or occiput *goertan* ♀ ad., p. 369.

b'''. Entire abdomen and middle of the lower breast bright scarlet.

*c*¹. Crown and occiput red ..... *spodocephalus* ♂ ad., [p. 371.

* I have not included Gray's *Picus africanus* in this or any other of my genera. The type no longer exists, and there is so much reason to doubt its being a good species that I prefer to leave it out. If such a species do exist, I should say, from the description, that it will be found to belong to the present genus and to be nearly allied to *M. pyrrhogaster*.

*d*⁴. With no red on the crown or occiput. *spodocephalus* ♀ ad., [p. 371.

b''. Head slate-grey; underparts olive, more golden on the neck and chest; lateral tail-feathers always uniform on the outer webs. [p. 372.

c'''. Crown and occiput red ..... *griseocephalus* ♂ ad.,

d'''. With no red on the crown or occiput .. *griseocephalus* ♀ ad., [p. 372.

b'. Underparts from the chest downwards spotted or varied with white; with a median stripe of red on the chest, breast, and abdomen. [p. 373.

c''. Crown and occiput red ..... *pyrrhogaster* ♂ ad., [p. 374.

d''. With no red on the crown or occiput, these being black ..... *pyrrhogaster* ♀ ad.,

B. With no red on rump or upper tail-coverts.

c'. Underparts more or less striped; with no black auricular or malar stripes; with red on the head in the male.

e''. Underparts and under tail-coverts dull yellow, and together with the chin and throat broadly striped with blackish; face brownish buff.

e'''. With red occipital and nuchal band .. *ellioti* ♂ ad., p. 374.

f'''. With no red on the occiput or nape, these being black like the crown ..... *ellioti* ♀ ad., p. 375.

f''. Underparts bright yellow, the chin and throat whiter, and, together with the breast and abdomen, uniform; the chest and remaining parts below with very narrow and faint striations of dusky brown; face greenish; with red occipital and nuchal band ..... *johnstoni* ♂ ad., [p. 375.

d'. Underparts spotted; with black auricular and malar stripes; face white; with yellow on the crown in the male.

g''. Feathers of the posterior part of the crown tipped with yellow ..... *xanthol ophus* ♂ ad., [p. 376.

h''. With no yellow on the crown ..... *xanthol ophus* ♀ ad., [p. 376.

1. Mesopicus goertan.

Picus goertan, *P. L. S. Müll. Natursyst. Suppl.* 1776, p. 91.

Le Goertan ou Pic vert du Sénégal, *Buff. Hist. Nat. Ois.* vii. p. 25 (1780); *Daubent. Pl. Enl.* pl. 320.

Crimson-rumped Woodpecker, *Lath. Gen. Syn.* i. pt. 2, p. 583, no. 29 (1782).

Picus goertan, *Gm. Syst. Nat.* i. p. 434 (1788); *Lath. Ind. Orn.* 1790, p. 236; *Steph. Gen. Zool.* ix. pt. 1, p. 179 (1815); *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 75 (1818); *Bonn. et Vieill. Enc. Méth.* p. 1321, no. 71 (1823); *Wagl. Syst. Av.* sp. 34 (1827); *id. Isis*, 1829, p. 511; *Sundev. Consp. Av. Picin.* p. 45, no. 133 *b* (1866); *Heugl. Orn. N.O.-Afr.* p. 814 (1871).

Dendrobates poicephalus, *Swains. B. W. Afr.* ii. p. 154 (1837).

Dendrobates immaculatus, *Swains. B. W. Afr.* ii. p. 152 (1837); *Gray, Gen. B.* ii. p. 437 (1846); *Bp. Consp. Gen. Av.* i. p. 125 (1850); *Sharpe & Bouvier, Bull. Soc. Zool. France*, 1876, p. 16; *Bocage, Orn. Ang.* 1877, p. 74.

Dendrobates poliocephalus, *Gray, Gen. B.* ii. p. 437 (1846); *Bp. Consp. Gen. Av.* i. p. 125 (1850).

Dendrobates goertan, *Gray, Gen. B.* ii. p. 437 (1846); *Bp. Consp. Gen. Av.* i. p. 125 (1850); *Hartl. J. f. O.* 1854, p. 199; *Bocage, Orn. Ang., App.* p. 535 (1877).

Gecinus goertan, *Blyth, Cat. B. Mus. As. Soc.* p. 57 (1849).

Mesopicus goertan, *Malh. Mém. Acad. Metz*, 1848–49, p. 340; *Bp. Consp. Volucr. Zygod.* p. 9 (1854); *Malh. Picidæ*, ii. p. 45, pl. lxiii. figs. 1, 2 (1862); *Cass. Proc. Acad. Philad.* 1863, p. 324; *Hargitt, Ibis*, 1883, p. 412; *Sharpe, Journ. Linn. Soc.* xvii. p. 431 (1884).

Picus poliocephalus, *Cuv. in Mus. Paris*; *Pucher. Rev. et Mag. Zool.* 1852, p. 479; *Sundev. Consp. Av. Picin.* p. 47 (1866).

Picus spodocephalus (*non Bp.*), *Brehm, J. f. O.* 1854, p. 78; *Sundev. Consp. Av. Picin.* p. 45, no. 133 *a* (1866); *Heugl. Orn. N.O.-Afr.* ii. p. 813 (1871).

Scolecotheres goertan, *Reichenb. Scans. Picinæ*, p. 428, pl. dclxxvi. figs. 4475–76 (1854); *Cab. & Heine, Mus. Hein.* iv. p. 136 (1863).

Scolecotheres poliocephalus, *Reichenb. Scans. Picinæ*, p. 427, pl. dclxxvi. figs. 4473–74 (1854).

Scolecotheres immaculatus, *Reichenb. Scans. Picinæ*, p. 428 (1854) *Cab. & Heine, Mus. Hein.* iv. p. 135 (1863).

Dendropicus goertan, *Hartl. Orn. W.-Afr.* p. 179 (1857); *Sharpe, Ibis*, 1869, p. 386.

Dendropicus immaculatus, *Hartl. Orn. W.-Afr.* p. 180 (1857); *Gray, List Picid. Brit. Mus.* 1868, p. 67; *id. Hand-l. B.* ii. p. 190, no. 8659 (1870); *Sharpe, P. Z. S.* 1873, p. 717.

Dendropicus poliocephalus, *Hartl. Orn. W.-Afr.* p. 179 (1857).

Mesopicus spodocephalus, *Malh. Picidæ*, ii. p. 49, pl. lxiii. figs. 4, 5 (1862).

Mesopicus poicephalus, *Malh. Picidæ*, ii. p. 48 (1862).

Mesopicus immaculatus, *Malh. Picidæ*, ii. p. 47 (1862); *Cass. Proc. Acad. Philad.* 1863, p. 324.

Dendropicus goertæ, *Gray, List Picid. Brit. Mus.* p. 67 (1868); *id. Hand-l. B.* ii. p. 190, no. 8658 (1870); *Sharpe, Cat. Afr. B.* 1871, p. 18; *Nicholson, P. Z. S.* 1878, p. 131.

Dendrocopus poliocephalus, *Reichenow, J. f. O.* 1877, p. 18.

Adult male. Back and scapulars pale golden olive; rump and upper tail-coverts scarlet; wing-coverts pale golden olive, the greater series having whitish spots; quills dusky brown spotted with white on both webs, the outer webs of the secondaries and of the inner primaries at the base washed with golden olive, and this tinting the white spots; shafts brown; tail dark brown, the outer large feather with transverse marginal spots of buffy white; shafts brownish black; crown, occiput, and nape scarlet; nasal plumes, forehead, entire face and neck silvery grey, grading into drabby grey on the underparts, with a yellow, orange, or reddish tinge on the abdomen; under tail-coverts yellowish drab; under wing-coverts and axillaries slightly yellowish white, barred with brownish dusky, the bars on the axillaries very faint. Total length 7·8 inches, culmen 1·14, wing 4·45, tail 2·55, tarsus 0·77; toes (without claws)—outer anterior 0·62, outer posterior 0·68, inner anterior 0·48, inner posterior 0·28.

Adult female. Differs from the adult male in wanting the red on the crown, occiput, and nape, these being silver-grey like the rest of the head. Total length 7·5 inches, culmen 1, wing 4·2, tail 2·45, tarsus 0·73.

Some adult birds, as well as immature specimens, have the underparts, below the breast, and the under tail-coverts faintly barred with dusky, and some examples have all the tail-feathers transversely spotted, or the central ones narrowly barred, with buffy white or brownish white; others from the same locality, and identical in other respects, having these feathers almost entirely uniform. Undoubtedly young birds have the tail almost without spots; the back and wings of a dusky brown, with very little olive tinge, and the upper tail-coverts of a washed-out scarlet; the underparts are darker and more smoky brown or dusky, and with no more distinct bars below the breast than in fully adult specimens.

Hab. West Africa from Senegambia to Angola, eastward into Niam-Niam Country, and north into Kordofan, Senaar, and Abyssinia *.

a. ♀ ad. sk.	West Africa.	Sharpe Coll.
b, c. ♂ ad. et imm.; *d.* ♀ ad. sk.	St. Louis, Senegal (*L. Laglaize*).	Tweeddale Coll.
e. ♂ ad. sk.	St. Louis, Senegal.	L. Laglaize [C.].
f, g. ♂ ♀ ad.; *h.* ♂ imm. sk.	St. Louis, Senegal (*L. Laglaize*).	Shelley Coll.
i. Ad. sk.	Senegal.	Sharpe Coll.
k. ♂ ad.; *l.* Imm. sk.	River Gambia.	Sharpe Coll.
m. Ad. sk.	River Gambia.	Purchased.
n. Imm. sk.	Fantee.	Sharpe Coll.
o. ♂ imm. sk.	Amamoah, Cape Coast, April (*Blissett*).	Sharpe Coll.
p. ♂ imm. sk.	Amamoah, April (*Blissett*).	Shelley Coll.
q. ♂ ad. sk.	Abeokuta.	F. Nicholson, Esq. [P.].
r. Imm. sk.	Congo.	R. B. Sperling Esq [P.].
s. ♂ ad. sk.	Semmio, Niam-Niam Country, Aug.	F. Bohndorff [C.].
t. Imm. sk.	East Africa.	Sharpe Coll.

2. Mesopicus spodocephalus.

Dendrobates poiocephalus, *Rüpp. (non Sw.), Beschr. neuer abyss. Klettervögel, in Mus. Senckenb.*, Extra-Band iii. p. 119 (1842); *id. Syst. Uebers.* p. 86, pl. xxxiv. (1845); *Heugl. Syst. Uebers.* p. 47, no. 485 (1856).

Dendrobates spodocephalus, *Bp. Consp. Gen. Av.* i. p. 125 (1850).

Mesopicus spodocephalus, *Bp. Consp. Volucr. Zygod.* p. 9 (1854);

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* Heuglin (Orn. N.O.-Afr. ii. p. 813, 1871) gives the three last-named countries as the habitat of his *Picus spodocephalus*, which I take to be nothing more than *M. goertan.*

Hartl. Orn. W.-Afr. p. 180 (note) (1857); *Salvad. Ann. Mus. Civ. Stor. Nat. Genova*, 1884, p. 88; *id. op. cit.* 1888, p. 211.
Scolecotheres spodocephalus, *Reichenb. Scans. Picinæ*, p. 427, pl. dclxxvi. figs. 4471–72 (1854) (*ex Rüpp.*).
Dendropicus spodocephalus, *Gray, List Picid. Brit. Mus.* p. 68 (1868) (pt.); *id. Hand-l. B.* ii. p. 190, n. 8660 (1870) (pt.); *Pelz. Verhandl. k. k. zool.-bot. Gesellsch.* xxxi. p. 615 (1881).
Picus (Mesopicus) rhodeogaster, *Fisch. & Reichenow, J. f. O.* 1884, p. 180; *Fisch. in Madarász, Zeitsch. gesamm. Orn.* 1884, p. 369.

Adult female. Back and scapulars uniform golden olive, the feathers having brighter golden margins; wing-coverts browner than the back and more or less margined with golden olive; quills brown, the outer webs of the inner primaries margined with golden olive, those of the secondaries partially or entirely olive-brown, similarly margined; a few minute and almost obsolete yellowish spots on the outer webs of some of the primaries; the inner webs of the primaries at their base, and those of the secondaries along their whole length, spotted with white; the innermost secondaries washed with olive on the inner webs, shafts dark brown: rump and upper tail-coverts scarlet; tail brown, the lateral feathers with a few indistinct spots of yellowish brown, shafts dark brown; nasal plumes, entire head and neck, also the under surface of the body, bluish grey, the breast having a slight tinge of olive; the abdomen scarlet-vermilion; under tail-coverts uniform, and rather browner than the under surface of the body; under wing-coverts dull white, with a slight tinge of yellow, and having dusky barring: "irides chestnut; bill plumbeous black; feet dusky bluish" (*Antinori*). Total length 7 inches, culmen 0·9, wing 4·37, tail 2·3, tarsus 0·7; toes (without claws)—outer anterior 0·56, outer posterior 0·62, inner anterior 0·45, inner posterior 0·3.

Adult male. "Differs from the female in the Antinori Collection in having the ashy-grey feathers of the crown and occiput tipped with red; the forehead is ashy grey and without red" (*Salvadori*). "Irides dusky; bill and feet bluish" (*Ragazzi*).

Hab. Shoa and south-west to Lado, and ranging into Massai-Land.

3. Mesopicus griseocephalus.

Le Pic verd de l'Isle de Luçon, *Sonn. Voy. Nouv. Guin.* 1776, p. 73, pl. xxxvi.
Le Pic à tête grise du Cap de Bonne Espérance, *Buff. Hist. Nat. Ois.* vii. p. 26 (1780); *Daub. Pl. Enl.* 786. fig. 2.
Cape Woodpecker, *Lath. Gen. Syn.* ii. p. 586, pl. 2 (1782).
Manilla Green Woodpecker, *Lath. Gen. Syn.* ii. p. 583, no. 28 (1782).
Picus griseocephalus, *Bodd. Tabl. Pl. Enl.* p. 49 (1783).
Picus menstruus, *Scop. Del. Fl. et Faun. Insubr.* ii. p. 89, no. 50 (1786); *Sundev. Consp. Av. Picin.* p. 45, no. 132 (1866).
Picus capensis, *Gm. Syst. Nat.* i. p. 430 (1788); *Lath. Ind. Orn.* i.

p. 237, no. 37 (1790); *Licht. Cat. Rer. Nat. Hamb.* p. 16, nos. 175, 176 (1793); *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 92 (1818); *Steph. Gen. Zool.* ix. p. 194 (1826); *Less. Traité*, i. p. 219 (1831); *Rüpp. Syst. Uebers.* p. 87 (1845).

Picus manillensis, *Gm. Syst. Nat.* i. p. 434 (1788, *ex Sonn.*); *Latham, Ind. Orn.* i. p. 236, no. 31 (1790); *Steph. Gen. Zool.* ix. p. 189.

Le Pic Olive, *Levaill. Ois. d'Afr.* vi. p. 16, pls. ccxlviii., ccxlix. (1808); *Sundev. Krit. Framst. Levaill.* p. 52 (1857).

Picus caniceps, *Wagl. Syst. Av.* Picus, sp. 46 (1827).

Picus obscurus, *Wagl. Syst. Av.* Picus, sp. 90 (1827).

Dendrobates capensis, *Swains. B. W. Afr.* ii. p. 154 (1837); *Bp. Consp. Gen. Av.* i. p. 125 (1850).

Dendrobates griseocephalus, *Gray, Gen. B.* ii. p. 437 (1849); *Layard, B. S. Afr.* p. 236 (1867).

Chrysocolaptes menstruus, *Gray, Gen. B.* iii. App. p. 21 (1849); *Bp. Consp. Gen. Av.* i. p. 122 (1850); *id. Consp. Volucr. Zygod.* p. 10 (1854); *Reichenb. Scans. Picinæ*, p. 400, pl. dcliv. fig. 4356 (1854).

Mesopicus capensis, *Bp. Consp. Volucr. Zygod.* p. 9 (1854); *Malh. Picidæ*, ii. p. 42, pl. xlii. figs. 7, 8 (1862).

Mesopicus griseocephalus, *Cass. Proc. Acad. Philad.* 1863, p. 324; *Hargitt, Ibis*, 1883, p. 417; *Sousa, Jorn. Sc. Lisb.* 1889, p. 43.

Scolecotheres menstruus, *Cab. & Heine, Mus. Hein.* iv. p. 134 (1863).

Dendropicus menstruus, *Gray, List Picid. Brit. Mus.* p. 67 (1868); *id. Hand-l. B.* ii. p. 190, no. 8657 (1870); *Sharpe, Cat. Afr. B.* p. 18 (1871); *id. ed. Layard's B. S. Afr.* p. 191 (1875); *Barratt, Ibis*, 1876, p. 200; *Butler, Feilden, & Reid, Zoologist*, 1882, p. 208.

Mesopicus menstruus, *Ayres, Ibis*, 1876, p. 432.

Dendrobates menstruus, *Salvin, Cat. Strickl. Coll.* p. 393 (1882).

Adult male. Upper parts, including scapulars and wing-coverts, uniform golden olive; quills blackish brown, the outer webs edged with golden olive, this colour being more developed on the secondaries; inner webs spotted with white; shafts brownish black; rump and upper tail-coverts crimson; tail uniform blackish brown, shafts black; crown and occipital crest crimson; forehead, lores, and entire side of the face, also chin and throat, ashy grey; fore neck and chest golden olive, tinged with dull red; underparts olive mixed with grey, the bases of the feathers being of the latter colour; the centre of the abdomen tinged with scarlet; under wing-coverts and axillaries yellowish white crossed by dusky bars: "upper mandible dusky, the under one pale ashy; tarsi and feet greenish ashy; iris dusky" (*F. A. Barratt*); "iris reddish hazel" (*T. C. Atmore*). Total length 7·6 inches, culmen 1·2, wing 4·4, tail 3, tarsus 0·8; toes (without claws)—outer anterior 0·55, outer posterior 0·6, inner anterior 0·4, inner posterior 0·25.

Adult female. Differs from the adult male in having the head entirely grey. Total length 7·5 inches, culmen 1·1, wing 4·2, tail 2·75, tarsus 0·8.

Hab. Cape Colony, Natal, and into Zulu-Land and Eastern Transvaal; extending on the west to Huilla in Angola.

a. ♂ ad. sk.	Cape Colony.	F. Thackeray, Esq. [P.].
b, c. ♂ ♀ ad.; *d.* Imm. sk.	Cape Colony.	Sharpe Coll.
e. ♂ imm. sk.	Cape Colony.	India Museum.
f, g. ♀ ad. sk.	Cape Colony.	Tweeddale Coll.
h. ♀ ad. sk.	Knysna, Jan. (*C. J. Andersson*).	Sharpe Coll.
i. ♂ ad. sk.	Knysna, Dec. (*C. J. Andersson*).	Tweeddale Coll.
k, l. ♂ ad. sk.	Elands Post, May, June (*T. C. Atmore*).	Sharpe Coll.
m. ♂ ad. sk.	George (*T. C. Atmore*).	Shelley Coll.
n, o. ♀ ad.; *p.* ♂ imm. sk.	Kingwilliamstown.	Major Trevelyan [P.].
q, r. ♂ ♀ ad. sk.	Drakensberg, Aug. (*E. A. Butler*).	Shelley Coll.
s. ♂ ad. sk.	Newcastle, Aug. (*E. A. Butler*).	Shelley Coll.
t, u. ♂ ♀ ad. sk.	Zulu-Land (*Gordge*).	Shelley Coll.
v. ♂ ad. sk.	Macamac, June.	F. A. Barratt, Esq. [P.].
w, x. ♂ ♀ ad. sk.	Macamac (*F. A. Barratt*).	Shelley Coll.

4. **Mesopicus pyrrhogaster.**

Picus (Chloropicus) pyrrhogaster, *Malh. Rev. Zool.* 1845, p. 399.

Dendrobates pyrrhogaster, *Gray, Gen. B.* iii. App. p. 21 (1849); *Hartl. J. f. O.* 1854, pp. 201, 433.

Chloropicus pyrrhogaster, *Bp. Consp. Gen. Av.* i. p. 126 (1850).

Scolecotheres pyrrhogaster, *Reichenb. Scans. Picinæ*, p. 428 (1854).

Mesopicus pyrrhogaster, *Bp. Consp. Volucr. Zygod.* p. 9 (1854); *Malh. Picidæ*, ii. p. 41, pl. viii. figs. 9, 10 (1862); *Hargitt, Ibis*, 1883, p. 419; *Büttikofer, Notes Leyd. Mus.* 1885, p. 219; *id. op. cit.* 1886, p. 263, 1888, p. 96.

Dendropicus (Mesopicus) pyrrhogaster, *Hartl. Orn. W.-Afr.* p. 180 (1857).

Dendropicus pyrrhogaster, *Cassin, Proc. Acad. Nat. Sc. Philad.* 1859, p. 141; *Hartl. J. f. O.* 1861, p. 263; *Gray, List Picid. Brit. Mus.* p. 68 (1868); *id. Hand-l. B.* ii. p. 190, no. 8861 (1870); *Sharpe, Ibis*, 1870, p. 486; *id. Cat. Afr. B.* p. 18 (1871); *Ussher, Ibis*, 1874, p. 55.

Camponomus pyrrhogaster, *Cab. & Heine, Mus. Hein.* Th. iv. p. 137 (1863).

Picus pyrrhogaster, *Sundev. Consp. Av. Picin.* p. 45, no. 131 (1866).

Adult male. Back, scapulars, and wing-coverts deep golden olive the outermost of the median wing-coverts spotted with buff; rump and upper tail-coverts crimson; quills blackish brown, the outer webs of the secondaries and the external margin of the inner primaries deep golden olive; the outer webs of the primaries spotted with white or yellowish, the inner webs of all the quills spotted with white; shafts black; tail uniform blackish brown, the shafts black; upper nasal plumes and the forehead brown, the latter spotted with paler brown; crown and occiput crimson; nape and hind neck black; lower nasal plumes, sides of the face and neck,

chin, throat, and fore neck buffy or yellowish white, with a black auricular stripe and another black stripe bordering the throat and fore neck; underparts blackish olive, the median feathers of the chest and breast, as well as those of the abdomen, tipped with crimson, this colour forming a broad stripe; the sides of the chest striped, the sides of the breast, the flanks, and thighs spotted with yellowish white; under tail-coverts olive, slightly striped with white; under wing-coverts and axillaries golden white, the former spotted with black. Total length 8·3 inches, culmen 1·3, wing 4·4, tail 2·7, tarsus 0·75; toes (without claws)—outer anterior 0·6, outer posterior 0·67, inner anterior 0·5, inner posterior 0·3.

Young male. Similar to the adult of the same sex, but having the back, scapulars, and wing-coverts dingy olive: the red on the underparts confined to the tips of a few of the central feathers of the chest and breast, and of a very dull crimson.

Adult female. Differs from the adult male in the absence of red on the head, the crown and occiput being black. Total length 7·5 inches, culmen 1·1, wing 4·6, tail 2·9, tarsus 0·8.

Hab. West Africa, between Sierra Leone and the Gold Coast.

a. ♀ ad. st.	Gold Coast.	Capt. Moloney [P.].
b, c. ♂ ad.; *d, e.* Imm. sk.	Fantee.	Sharpe Coll.
f. ♀ ad. sk.	Fantee (*H. T. Ussher*).	Shelley Coll.
g. ♀ ad. sk.	Fantee.	Tweeddale Coll.
h. ♂ ad. sk.	Denkera, Jan. (*Blissett*).	Sharpe Coll.
i. ♀ ad. sk.	Commendah, June (*Blissett*).	Shelley Coll.
k. ♂ ad. sk.	Aguapim, Feb. (*G. E. S.*).	Shelley Coll.
l. ♀ ad. sk.	Enimill, Wassaw, March (*Blissett*).	Shelley Coll.

5. Mesopicus ellioti.

Polipicus elliotii, *Cass. Proc. Acad. Philad.* 1863, p. 197; *id. Journ. Acad. Philad.* 1863, p. 457, pl. li. fig. 1, ♀.
Picus ellioti, *Sundev. Consp. Av. Picin.* p. 63 (1866).
Campethera ellioti, *Gray, List Picid. Brit. Mus.* p. 83 (1868); *id. Hand-l. B.* ii. p. 193, no. 8703 (1870).
Poliopicus ellioti, *Hargitt, Ibis*, 1883, p. 448.

Adult male. Back, scapulars, rump, and upper tail-coverts uniform olive; the wing-coverts also uniform olive but with a golden-brown tinge; quills blackish brown, the outer webs of the secondaries and the margins of those of the primaries at their base olive, the inner webs of the quills spotted with white; shafts brown; tail brownish black, the inner webs spotted with dull white at the extreme base, and the central feathers partially margined with olive, shafts brown; nasal plumes, forehead, and most of the crown black, the hinder part of the crown and the occiput scarlet; nape black; lores and face buffy brown; side of the neck and the hind neck yellowish olive; chin and throat white, the fore neck, chest, and the remaining underparts and under tail-coverts dull yellow, the whole being striped with black anteriorly, as far as and in-

cluding the chest, and with deep olive posteriorly, except on the thighs which are barred, the under tail-coverts having, in addition to the striations, blackish-olive bars; under wing-coverts yellowish white, striped and spotted with dusky olive; upper mandible black, the tip pale horny; lower mandible pale horny. Total length 7·5 inches, culmen 0·92, wing 3·8, tail 2·7, tarsus 0·7; toes (without claws)—outer anterior 0·5, outer posterior 0·53, inner anterior 0·4, inner posterior 0·25.

Adult female. With Cassin's figure before me, the adult of this sex differs from the adult male in wanting the broad red occipital band. The measurements are given as follows:—"Total length about 7 inches, wing $3\frac{3}{4}$, tail 3" (*Cassin*).

Hab. Western Africa (River Muni to Landana).

6. **Mesopicus johnstoni.** (Plate IX.)

Poliopicus johnstoni, *Shelley, P. Z. S.* 1887, p. 122.

Adult male. Entire upper parts and tail-coverts, wing-coverts, and outer webs of the secondaries, also those of the primaries at their base, yellowish olive; remaining portion of the quills dusky black, or brownish on the outer webs of the primaries, the inner webs of the quills being spotted with white; shafts brown; tail dusky brown, the central feathers margined at the base with yellowish olive; shafts brown; forehead and crown black, the occiput and nape scarlet; nasal plumes black; lores and face buffy green, brighter yellowish olive on the side of the neck; chin and throat yellowish white, grading into brilliant yellow on the whole of the underparts and under tail-coverts, the sides of the fore neck, body, flanks, thighs, and the under tail-coverts having only a few almost obsolete dusky striations; under wing-coverts and axillaries yellowish white; bill yellowish white, darker at the base of the upper mandible. Total length 6·5 inches, culmen 0·82, wing 3·55, tail 2·45, tarsus 0·68; toes (without claws)—outer anterior 0·57, outer posterior 0·62, inner anterior 0·45, inner posterior 0·26.

Hab. Cameroon Mountains, 6000 feet.

a, b. ♂ ad. sk. Cameroons, W. Africa (*H. H. Johnston*). British Association [P.]. (Types of the species.)

7. **Mesopicus xantholophus.** (Plate VIII.)

Dendromus africanus (*non Gray*), *Cassin, Pr. Philad. Acad.* 1859 p. 141; *Heine, J. f. O.* 1860, p. 192.

Dendropicus africanus, *Hartl. J. f. O.* 1861, p. 263; *Cassin, Proc. Acad. Philad.* 1863, p. 322; *Sharpe & Bouvier, Bull. Soc. Zool France*, 1876, p. 312.

Picus africanus, *Bocage, Jorn. Lisb.* n. xx. 1876, p. 259.

Dendrobates africanus, *Bocage, Orn. Ang.* 1877, App. p. 536.

Dendropicus xantholophus, *Hargitt, Ibis*, 1883, p. 173.

Mesopicus xantholophus, *Hargitt, Ibis*, 1883, p. 421; *Sharpe, Journ. Linn. Soc.* xvii. p. 430 (1884).

Dendropicus pecilei, *Oust. Le Naturaliste*, 1886, p. 299.

Adult male. Back, scapulars, rump, and upper tail-coverts olive, the rump-feathers tipped with yellow; wing-coverts olive, the lesser and the median series sparingly spotted with white; quills black, the outer webs of the primaries partially or entirely margined with olive and spotted with white, those of the secondaries entirely olive; inner webs of the quills (except the innermost) spotted with white; shafts black; tail and the shafts black; nasal plumes dusky brown mixed with white; forehead and crown brown, the feathers of the hind crown tipped with golden yellow; occiput and nape black; hind neck like the back, the sides transversely spotted with white; face, chin, and throat white, the supercilium striped with black; an auricular stripe of black, and bordering the throat and fore neck another black stripe, the tips of many of the feathers of the latter white; sides of the neck and chest olive-black, and, with the remainder of the underparts which are dusky olive, spotted with white (except upon the abdomen, which is uniform or sometimes transversely varied with yellowish), some of the abdominal feathers tipped with dull golden yellow; under tail-coverts dusky olive, spotted with white; under wing-coverts black, spotted and barred with white; axillaries barred black and white. Total length 8·5 inches, culmen 1·23, wing 4·5, tail 2·66, tarsus 0·87; toes (without claws)—outer anterior 0·62, outer posterior 0·75, inner anterior 0·5, inner posterior 0·32.

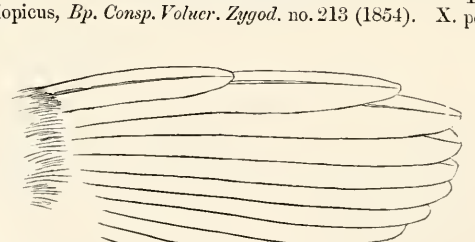
Adult female. Resembles the adult male, but wants the yellow on the crown. Total length 8·5 inches, culmen 1·15, wing 4·46, tail 2·66, tarsus 0·8.

Hab. Gaboon and the Congo, east to the northern part of the Congo Free State (Aruwimi River), and in the Niam-Niam Country.

a. ♂ imm.; *b*. ♀ ad. sk.	Gaboon.	A. Marche [C.].
c. ♂ ad. sk.	N'doruma, Niam-Niam Country, Aug.	F. Bohndorff [C.].

25. XIPHIDIOPICUS.

Xiphidiopicus, *Bp. Consp. Volucr. Zygod.* no. 213 (1854). Type. X. percussus.



Wing of *Xiphidiopicus percussus* (reduced).

Range. Confined to the island of Cuba.

1. Xiphidiopicus percussus.

Picus percussus, *Temm. Pl. Col.* 66e livr. 390 ♂, 424 ♀ (1826); *Vig. Zool. Journ.* iii. p. 444 (1828); *Ramon de la Sagra, Hist. Fis. &c. Cuba*, ii. p. 109 (1838); *d'Orb. in Sagra's Hist. Phys. &c. Cuba*, ii. p. 143 (1839); *Denny, P. Z. S.* 1847, p. 39; *Lembeye, Av. Isl. Cuba, Supl.* p. 131 (1850); *Sundev. Consp. Av. Picin.* p. 48 (1866).

Picus ruppellii, *Wagl. Syst. Av.* Picus, sp. 29 (1827); *id. Isis*, 1829, p. 509.

Dendrobates percussus, *Gray, Gen. B.* ii. p. 437 (1845).

Chloropicos percussus, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 352.

Chloronerpes percussus, *Bp. Consp. Gen. Av.* i. p. 118 (1850); *Reichenb. Scans. Picinæ*, p. 407, no. 957, pl. dclxii. figs. 4398–99, ♂ ♀ (1854); *Gray, List Picid. Brit. Mus.* p. 107 (1868); *id. Hand-l. B.* ii. p. 199, no. 8786 (1870); *Gundl. Contr. Orn. Cuba*, pp. 115, 273 (1876).

Xiphidiopicus percussus, *Bp. Consp. Volucr. Zygod.* p. 11, no. 213 (1854); *Scl. Cat. Amer. B.* p. 339, no. 2028 (1862); *id. & Salv. Nomencl. Av. Neotr.* p. 100 (1873); *Cory, List B. W. Ind.* p. 20 (1885); *id. Auk*, 1886, p. 376.

Chloropicus percussus, *Malh. Picidæ*, ii. p. 147, pl. lxxxvi. figs. 1, 2, ♂ ♀ ad. (1862).

Adult male. Back, scapulars, rump, and upper series of upper tail-coverts yellowish olive, the lower series of the latter bluish grey tinged with olive, the tail-coverts more or less barred with dusky and at the base with whitish, and having shaft-spots or stripes of white; wing-coverts olive; quills brownish black, the outer webs of the primaries spotted with white, those of the secondaries (except the innermost which are uniform) spotted with green, the inner webs of the quills spotted with white; shafts black; tail bluish or slaty grey with the faintest trace of blackish bars, the lateral feathers having minute marginal spots of buffy white; shafts black; nasal plumes, frontal band, sides of the face and neck white, with a black auricular stripe; crown, also occipital and nuchal crest, crimson; chin and upper throat black; fore neck crimson; chest, breast, and abdomen golden yellow, the remaining underparts and the under tail-coverts whiter, the chest and upper breast striped with black, the lower breast and abdomen uniform, the sides of the body, flanks, thighs, and under tail-coverts barred with black; under wing-coverts and axillaries yellowish white barred with black; the underside of the lateral tail-feathers conspicuously barred and the central feathers having distinct marginal spots of grey. Total length 10 inches, culmen 1·15, wing 4·75, tail 3·75, tarsus 1; toes (without claws)—outer anterior 0·82, outer posterior 0·86, inner anterior 0·56, inner posterior 0·43.

Adult female. Resembles the male, but has the crown black striped with white. Total length 9 inches, culmen 0·83, wing 4·65, tail 3·45, tarsus 0·92.

Young, sex? Wants the crimson on the throat and fore neck, these, together with the chin, being brownish dusky; there is a very narrow median line of lemon-yellow on the breast and abdomen, and the remainder of the underparts (except the thighs) and the

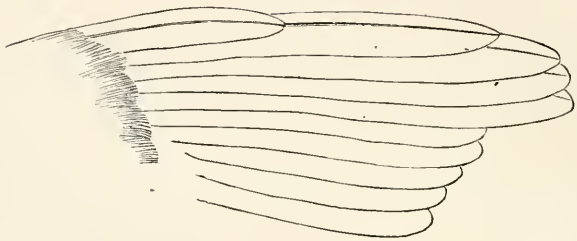
under tail-coverts are striped, the thighs alone having dusky bars; the chest is less yellow than in the adult; the white on the face and neck not so pure, and the auricular stripe of a paler dusky brown; the upper part of the forehead and the crown are blackish brown, the former having a few stripe-like spots of white, the coronal feathers tipped with crimson, the occiput and nape entirely crimson; the back and the wing-coverts are less green than in the adult.

Hab. Cuba.

a. ♀ ad. sk.	Cuba.	Sclater Coll.
b, *c*. ♂ ad. et imm.; *d*, *e*. ♀ ad. sk.	Cuba.	Salvin-Godman Coll.
f. ♂ ad. sk.	Monte Verde, Cuba (*C. Wright*) [Sm. no. 17746].	U. S. Nat. Mus. [P.].

26. SAPHEOPIPO.

Type *S. noguchii*.



Wing of *Sapheopipo noguchii* (reduced).

Range. Loo Choo Islands.

1. Sapheopipo noguchii.

Picus noguchii, *Seeb. Ibis*, 1887, p. 178, pl. vii.
Blythipicus noguchii, *Stejn. Zeitsch. gesamm. Orn.* 1887, p. 172.

Young, sex? Back, scapulars, rump, and upper tail-coverts sooty brown, the feathers tipped with dull brick-red, the underparts from the chest to the vent (both inclusive) as well as the under tail-coverts rather browner than the back, especially on the chest; the breast, abdomen, and under tail-coverts tipped with brighter brick-red; wings and their coverts brownish black, the outer primary long, measuring 1·95 inch; some of the primaries having one exposed and one concealed white spot on the outer webs, the inner webs having two or three spots of white, most of the secondaries having a concealed white spot at the extreme base of each web, shafts black; tail and the shafts black; nasal plumes buffy brown tipped

with black; forehead, crown, occiput, and nape dull crimson, the bases of the feathers sooty brown; hind neck sooty brown; lores, face, and upper part of the side of the neck buffy brown, the malar region and lower side of the neck darker brown; chin, throat, and fore neck buffy brown, the feathers having creamy-white bases; under wing-coverts and axillaries brownish black, the former having one or two longitudinal spots of white near the edge of the wing. Amongst the body-feathers, both above and below, are one or two of a rich maroon-colour, more or less tipped with crimson, appearing, evidently those of the adult plumage; the bill is whitish, horny or bluish at the base; legs and feet plumbeous blue; claws blackish brown. Total length 10·3 inches, culmen 1·32, wing 5·76, tail 3·8, tarsus 1·1; toes (without claws)—outer anterior 0·7, outer posterior 0·86, inner anterior 0·6, inner posterior 0·38.

Hab. Loo Choo Islands.

a. Juv. sk.	Great Loo Choo Island, Aug. 1886 (*H. Pryer*).	Henry Seebohm, Esq. [P.]. (Type of species.)

27. LEPOCESTES.

	Type.
Blythipicus, *Bp. Consp. Volucr. Zygod.* no. 98 (1854)	L. porphyromelas.
Pyrrhopicus, *Malh. Introd. Monogr. Picid.* p. liii. (1861)	L. pyrrhotis.
Plinthopicus, *Malh. Introd. Monogr. Picid.* p. liii. (1861)	L. porphyromelas.
Lepocestes, *Cab. & Heine, Mus. Hein.* iv. p. 110 (1863)	L. pyrrhotis.

Bill of *Lepocestes pyrrhotis*.

Range. Eastern Himalayan Provinces, into Cachar and Manipur; through Burmah and the Malayan Peninsula into Sumatra and Borneo.

Key to the Species.

A. Larger: length 10·5 inches, culmen 2, wing 5·5; barred above.
  a'. With red on the sides of the nape.
    a''. Top of the head nearly uniform; the red on the side of the nape very brilliant and forming a conspicuous patch .... *pyrrhotis* ♂ ad., p. 380.

b''. Top of the head striped; the red on the side of the nape forming a narrow band. *pyrrhotis* ♂ juv., p. 381.

b'. With no red on the sides of the nape.

c''. Top of the head uniform ..... *pyrrhotis* ♀ ad., p. 381.

d''. Top of the head striped ..... *pyrrhotis* ♀ juv., p. 381.

B. Smaller: length 8·5 inches, culmen 1·55, wing 4·8; uniform above.

c'. Wings spotted; tail uniform.

e''. With a patch of red on the side of the nape ..... *porphyromelas* ♂ ad., [p. 382.

f''. With no red on the side of the nape .. *porphyromelas* ♀ ad.,

d'. Wings and tail narrowly barred with dusky white..... *porphyromelas* ♂ juv., [p. 383. [p. 383.

1. Lepocestes pyrrhotis.

Picus pyrrhotis, *Hodgs. J. A. S. B.* 1837, p. 108, ♂; *Sundev. Consp. Av. Picin.* p. 47 (1866).

Chloronerpes pyrrhotis, *Hodgs. in Gray's Zool. Misc.* 1844, p. 85.

Meiglyptes pyrrhotis, *Gray, Cat. Mamm. &c. Nepal pres. Hodgs.* 1846, p. 117; *id. Gen. B.* iii. App. p. 22 (1849); *Reichenb. Scans. Picinæ*, p. 404, no. 943, pl. dclix. figs. 4378–79, ♂ ♂ (1854).

Celeopicos pyrrhotis, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 335.

Gecinus pyrrhotis, *Blyth, Cat. B. Mus. As. Soc.* p. 59, no. 271 (1849).

Blythipicus pyrrhotis, *Bp. Consp. Volucr. Zygod.* p. 9, no. 99 (1854); *Hume, Str. F.* vii. p. 520 (1878); *id. op. cit.* 1879, p. 88, no. 176; *Hume, Str. F.* xi. p. 63 (1888).

Venilia pyrrhotis, *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 666, no. 972 (1856–58); *Jerd. B. Ind.* i. p. 291 (1862); *Gray, Cat. Mamm. &c. Nepal pres. Hodgs.* p. 64, no. 487 (1863); *Beavan, Ibis*, 1865, p. 411; *Bulg. op. cit.* 1869, p. 157; *Jerd. op. cit.* 1872, p. 9; *Hume, Str. F.* 1874, p. 472; *Blyth & Wald. B. Burm.* 1875, p. 77; *Hume, Str. F.* 1877, p. 26; *id. & Davison, op. cit.* 1878, vi. p. 142; *Oates, B. Brit. Burm.* ii. p. 39 (1883).

Celeopicus pyrrhotis, *Malh. Picidæ*, ii. p. 37, pl. xlix. figs. 4 ♂, 5 ♀ (1862).

Lepocestes pyrrhotis, *Cab. & Heine, Mus. Hein.* iv. p. 110 (1863); *Sharpe, P. Z. S.* 1888, p. 279.

Campephilus pyrrhotis, *Gray, List Picid. Brit. Mus.* p. 58 (1868); *id. Hand-l. B.* ii. p. 188, no. 8633 (1870).

Adult male. Above, together with the wings, tail, and their coverts, barred rufous and black, the back washed with dull reddish; shafts of quills and of rectrices orange-reddish; head and neck brown, paler and more buff anteriorly, with a few pale brown striations on the fore part of the crown; on each side of the nape a large patch of scarlet, the central nuchal feathers only tinged with red; fore neck and chest reddish brown, grading into dusky brown on the remainder of the underparts; under tail-coverts barred rufous and black; under wing-coverts rufous, barred with black. Total length 10·5 inches, culmen 2, wing 5·5, tail 3·3, tarsus 1·05; toes (without claws)—outer anterior 0·85, outer posterior 0·87, inner anterior 0·6, inner posterior 0·5.

In very old males there is a complete nuchal band of scarlet.

Immature male. Has the head more or less striped with rufescent buff; the red patch on the side of the nape smaller in extent and less vivid; the back less washed with dull red, consequently the bars showing more distinctly; the underparts dusky black, the feathers tipped with dull reddish rufous, which produces an appearance of barring.

Adult female. Resembles the adult male, but lacks the brilliant red feathers on the side of the nape, there being only a trace of this colour. Total length 10 inches, culmen 1·9, wing 5·65, tail 3·2, tarsus 1·15.

Young female. Is striped on the head like the young male, which it resembles, but the red on the side of the nape is wanting.

Hab. Nepal and Sikhim, eastward into the Khasia Hills, Cachar, and Manipur; south into Pegu (Tonghoo Hills and Karen-nee), and Tenasserim, and ranging as far as the mountains of Perak, Malayan Peninsula.

a. ♂ ad. sk.	Nepal.	Hodgson Coll. (Type of species.)
b, *c*. ♂ ad.; *d*, *e*. ♂ juv. sk.	Nepal.	Hodgson Coll.
f, *g*. ♂ ad. et imm.; *h*, *i*. ♀ ad. sk.	Nepal (*B. H. Hodyson*).	India Museum.
k–*y*. ♂ ad. et juv.; *z*–*h'*. ♀ ad. et juv. sk.	Sikhim, Feb., March, April, June, Aug., Sept., Oct., Nov. (*L. Mandelli*).	Hume Coll.
i'. ♀ ad. sk.	Darjeeling.	Hume Coll.
k'. ♂ ad. sk.	N. Khasia Hills, April 1876 (*A. W. Chennell*).	Tweeddale Coll.
l'. ♂ ad. sk.	Cachar.	Hume Coll.
m', *n'*. ♀ ad. sk.	Machi, Manipur, May 7, 1881 (*A. O. H.*).	Hume Coll.
o'. ♂ juv. sk.	Karen-nee, Jan. 1876 (*R. G. W. R.*).	Tweeddale Coll.
p'. ♂ juv. sk.	Karen Hills, April 22, 1875 (*R. G. W. R.*).	Tweeddale Coll.
q'. ♂ ad. sk.	Tonghoo Hills, March 9, 1874 (*R. G. W. R.*).	Tweeddale Coll.
r'. ♂ juv. sk.	Tenasserim, April 11, 1877 (*W. Limborg*).	Tweeddale Coll.
s'. ♀ juv. sk.	Kollidoo, Feb. 2, 1874 (*W. Davison*).	Hume Coll.
t', *u'*. ♂ ad. sk.	Kyouk-nyat, Jan. 1874 (*W. Davison*).	Hume Coll.
v'. ♂ ad. sk.	Pahpoon, Jan. 8, 1874 (*W. Davison*).	Hume Coll.
w'. ♂ imm. sk.	Mooleyit, Feb. 3, 1877 (*W. Davison*).	Hume Coll.
x'. ♂ imm. sk.	Mts. of Perak.	L. Wray, Esq. [P.].
y'. Skeleton.	[Java.]	Purchased.

2. Lepocestes porphyromelas.

Picus porphyromelas, *Boie, Briefe geschr. aus Ostind.* p. 143 (1832); *Sundev. Consp. Av. Picin.* p. 47 (1866).
Picus (Hemicircus) rubiginosus, *Swains. Classif. B.* ii. p. 150 (1837).
Picus melanogaster, *Hay, Madr. Journ.* 1844, p. 153; *Tweedd. Mem. ed. W.-Ramsay*, p. 7 (1881).
Hemicercus rubiginosus, *Hartl. Rev. Zool.* 1844, p. 402, ♂; *Gray, Gen. B.* ii. p. 437 (1845); *Strickl. P. Z. S.* 1846, p. 104.
Picus rubiginosus, *Eyton, Ann. & Mag. Nat. Hist.* xvi. p. 229 (1845).
Gecinus rubiginosus, *Blyth, J. A. S. B.* 1846, p. 52; *id. Cat. B. Mus. As. Soc.* p. 59, no. 272 (1849).
Celeopicos rubiginosus, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 335.
Dendrobates rubiginosus, *Bp. Consp. Gen. Av.* i. p. 126 (1850).
Venilia porphyromelas, *Bp. Consp. Gen. Av.* i. p. 128 (1850); *Reichenb. Scans. Picinæ*, p. 359, no. 831, pl. dcxxix. figs. 4187–88 (1854); *Hume & Davison, Str. F.* vi. p. 143 (1878); *Oates, B. Brit. Burm.* ii. p. 40 (1883).
Blythipicus rubiginosus, *Bp. Consp. Volucr. Zygod.* p. 9, no. 98 (1854); *Gray, Cat. Gen. B. Brit. Mus.* p. 94 (1855).
Scolecotheres rubiginosus, *Reichenb. Scans. Picinæ*, p. 428, no. 1011 (1854).
Venilia melanogaster, *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 665 (1856–58).
Venilia melanogastra, *Moore, P. Z. S.* 1859, p. 457.
Venilia rubiginosa, *Jerd. B. Ind.* i. p. 292 (1862).
Celeopicus porphyromelas, *Malh. Picidæ*, ii. p. 39, pl. xlix. figs. 1 ♂, 2 ♀ (1862).
Lepocestes rubiginosus, *Cab. & Heine, Mus. Hein.* iv. p. 111 (1863).
Campephilus rubiginosus, *Gray, List Picid. Brit. Mus.* p. 58 (1868); *id. Hand-l. B.* ii. p. 188, no. 8632 (1870).
Lepocestes porphyromelas, *Salvad. Ucc. Born.* p. 48 (1874); *Hume, Str. F.* 1875, p. 319; *Sharpe, Ibis*, 1877, p. 9; *id. op. cit.* 1879, p. 242; *Salvad. Ann. Mus. Civ. Stor. Genova*, 1879, p. 181; *Sharpe, P. Z. S.* 1887, p. 443; *id. P. Z. S.* 1888, p. 279.
Blythipicus porphyromelas, *Hume, Str. F.* vii. p. 520 (1878); *id. op. cit.* 1879, pp. 52, 88, no. 176 *bis*.

Adult male. Upper parts and wing-coverts uniform purplish red, the upper tail-coverts dusky black, margined with the same purplish red; quills brownish black, the outer webs of the secondaries and of the inner primaries at the base margined with red, the quills having dusky-greyish spots or narrow bars; shafts black; tail and the shafts black; head brown anteriorly, becoming blacker posteriorly and on the neck, some of the feathers on the side of the nape tipped with bright crimson, the malar feathers slightly tinged with dull red; under surface of the body and the under tail-coverts blackish brown, with a reddish tinge on the chest; under wing-coverts blackish brown mixed with dull red. Total length 8·5 inches, culmen 1·55, wing 4·8, tail 2·7, tarsus 0·95; toes (without claws)—

outer anterior 0·88, outer posterior 0·96, inner anterior 0·6, inner posterior 0·38.

Young male. Has the upper parts more of a dull brick-red, the rump and upper tail-coverts being devoid of this colour; the wings and their coverts more distinctly barred with brownish grey, and the tail entirely barred with the same; head brown, buffy brown anteriorly, the feathers of the crown, occiput, and sides of the nape dull brick-red; chin and throat brownish, the under surface of the body dusky black, with no red tinge on the chest and none on the malar region; under wing-coverts barred with dusky grey.

Adult female. Wants the bright crimson feathers on the side of the nape, and the malar region is not tinged with red. Total length 8·5 inches, culmen 1·32, wing 4·75, tail 2·8, tarsus 0·87.

Hab. Tenasserim, south of Bopyin; Malayan Peninsula to Singapore; Sumatra; Borneo.

a. ♂ ad. sk.	Bopyin, Dec. 20, 1874 (*W. Davison*).	Hume Coll.
b. ♀ ad. sk.	Palaw-ton-ton, Dec. 29, 1874 (*W. Davison*).	Hume Coll.
c–i. ♂ ad.; *k–s.* ♀ ad. et juv. sk.	Bankasoon, Dec., Feb., March, Apr., May, June (*W. Davison*).	Hume Coll.
t, u. ♂ ad.; *v.* ♀ ad. sk.	Malewoon, Dec., April (*W. Davison*).	Hume Coll.
w. Juv. sk.	Penang.	Tweeddale Coll.
x. ♂ ad. sk.	Mts. of Perak.	L. Wray, Esq. [P.].
y, z. ♂ ad.; *a', b', c'.* ♀ ad. et juv. sk.	Klang, Feb., March, April (*W. Davison*).	Hume Coll.
d'. ♂ ad. st.	Malacca.	Purchased.
e', f'. ♂ ad.; *g', h'.* Imm. sk.	Malacca, July (*W. Davison*).	Hume Coll.
i'. ♂ ad. sk.	Malacca.	W. Harvey, Esq. [P.].
k', l', m'. ♂ ad. et imm.; *n'.* ♀ ad. sk.	Malacca (*Dr. Cantor*).	India Museum.
o', p'. ♂ ad.; *q'.* Juv. sk.	Malacca (*R. G. W. R.*).	Tweeddale Coll.
r'. ♂ ad.; *s'.* ♂ juv. sk.	Malacca (*Dr. Maingay*).	Tweeddale Coll.
t'. ♂ ad. sk.	Kuroo, Malacca, Nov. 2, 1875 (*W. Davison*).	Hume Coll.
w'. ♂ ad.; *v', w', x'.* ♀ ad. et juv. sk.	Johore, Aug. 1875 (*W. Davison*).	Hume Coll.
y'. Juv. sk.	Singapore.	Lord Ellenborough [P.].
z'. Juv. sk.	Singapore.	Gould Coll.
a''. ♀ ad. sk.	Sumatra (*Carl Bock*).	Tweeddale Coll.
b''. ♀ imm. sk.	Lawas River, Borneo.	H. Veitch, Esq. [P.].

28. MIGLYPTES.

	Type.
Meiglyptes, *Swains. Classif. B.* ii. p. 309 (1837)	M. tristis.
Stugnopicus, *Malh. Introd. Monogr. Picid.* p. liii (1861) ..	M. tristis.

Head of *Miglyptes tristis.*

Range. Burmah, Siam, and Cochin China, and through the Malayan Peninsula into the islands of Sumatra, Nias, Java, and Borneo.

Key to the Species.

A. Upper back barred.
  a'. Lower back and rump buffy white.
    a''. Centre of breast and abdomen uniform black.
      a'''. With red malar stripe ..... *tristis* ♂, p. 385.
      b'''. Malar region barred like the chin and throat ..... *tristis* ♀, p. 385.
    b''. Breast and abdomen barred with buffy white.
      c'''. With red malar stripe ..... *grammithorax* ♂, p. 386.
      d'''. Malar region barred like the chin and throat ..... *grammithorax* ♀, p. 386.
  b'. Lower back and rump barred like the upper back.
    c''. Head dusky brown or olivaceous dusky.
      e'''. With red malar stripe ..... *tukki* ♂, p. 389.
      f'''. Malar region barred like the chin and throat ..... *tukki* ♀, p. 389.
    d''. Head brownish black; malar region uniform brown ..... *infuscatus* (♂ on label), [p. 390.
B. Entire back uniform black; rump creamy white; breast and abdomen uniform black.
  c'. Feathers of the malar region tipped with red ..... *jugularis* ♂, p. 391.
  d'. Malar region devoid of red ..... *jugularis* ♀, p. 391.

1. Miglyptes tristis.

Picus tristis, *Horsf. Trans. Linn. Soc.* xiii. p. 177 (1822); *Giebel* (pt.), *Thes. Orn.* iii. p. 183 (1876).
Picus poicilolophus, *Temm. Pl. Col.* iv. pl. cxcvii. fig. 1 (1823) *Wagler* (pt.), *Syst. Av.* Picus, sp. 68 (1827).

Meiglyptes poicilophus, *Swains. Classif. B.* ii. p. 309 (1837).
Meiglyptes tristis, *Gray, List Gen.* 1840, p. 55; *id. Gen. B.* ii. p. 447 (1846); *Blyth* (pt.) *Cat. B. Mus. As. Soc.* 1849, p. 60; *Bp.* (pt.) *Consp. Gen. Av.* i. p. 112 (1850); *id. Consp. Volucr. Zygod.* p. 9 (1854); *Reichenb.* (pt.) *Scans. Picinæ*, p. 402, pl. dclvii. figs. 4370-4371 (1854); *Horsf. & Moore* (pt.), *Cat. B. Mus. E. I. Co.* ii. p. 668 (1856–58); *Gray, List Picid. Brit. Mus.* p. 123 (1868); *id. Hand-l. B.* ii. p. 203, no. 8838 (1870); *Nicholson, Ibis*, 1879, p. 164; *id. op. cit.* 1881, p. 141; *Vorderm. List B. Java*, no. 64 (1884).
Phaiopicos tristis, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 338.
Phaiopicus tristis, *Malh. Picidæ*, ii. p. 10, pl. xlviii. figs. 1, 2 (1862).
Picus tristis, var. *a*, *Sundev. Consp. Av. Picin.* p. 91 (1866).
Miglyptes tristis, *Hume, Str. F.* 1879, p. 497 (note); *Hargitt, Ibis*, 1884, p. 189.

Adult male. Upper and middle back, scapulars, and wing-coverts black, narrowly barred with buffy white; bastard-wing and primary-coverts black, spotted with buffy white; quills black, spotted with buffy white upon both webs, the innermost being barred with the same across both webs; shafts black; lower back and rump buffy white, the former with a few dusky cross-markings; upper tail-coverts black, narrowly barred with buffy white; tail black, with buffy white spots upon both webs, shafts black; lores, entire head and crest, sides of the neck, chin, and throat black, finely vermiculated with buffy white; a small red malar patch; under surface of the body black, the sides of the body, flanks, and thighs barred with buffy white; under tail-coverts black, narrowly barred with buffy white; under wing-coverts and axillaries buffy white. Total length 6 inches, culmen 0·85, wing 3·7, tail 1·95, tarsus 0·7; toes (without claws)—outer anterior 0·6, outer posterior 0·55, inner anterior 0·4, inner posterior 0·28.

Adult female. Resembles the adult male, but wants the red malar patch. Total length 5·8 inches, culmen 0·75, wing 3·6, tail 1·7, tarsus 0·65.

Hab. Confined to the Island of Java.

a. ♀ imm. sk.	Java (*Horsfield*).	India Museum. (Type of species.)
b. ♀ ad. sk.	Java (*Horsfield*).	India Museum.
c, *d*. ♂ ♀ ad. sk.	W. Java.	F. Nicholson, Esq. [P.].
e. Skull.	Java.	Purchased.

2. Miglyptes grammithorax.

Picus poicilolophus (*non Temm.*), *Less. Traité*, i. p. 221 (1831).
Hemicircus tristis, *Eyton, P. Z. S.* 1839, p. 106.
Meiglyptes tristis (pt.), *Blyth, Cat. B. Mus. As. Soc.* p. 60 (1849); *Bp. Consp. Gen. Av.* i. p. 112 (1850); *id. Consp. Volucr. Zygod.* p. 9 (1854); *Reichenb. Scans. Picinæ*, p. 402, pl. dclvii. figs. 4370–4371 (1854).

Meiglyptes tristis (*non Horsf.*), *Stoliczka, J. A. S. B.* 1870, p. 294; *Wald. Ibis*, 1872, p. 365; *Salvad. Ucc. Born.* p. 56 (1874); *Hume, Str. F.* 1874, p. 471; *id. op. cit.* 1875, p. 324; *Blyth & Wald. B. Burm.* p. 77 (1875); *Sharpe, P. Z. S.* 1875, p. 103; *id. Ibis*, 1876, p. 36; *Tweedd. op. cit.* 1877, p. 290; *Brügg. Abhandl. nat. Ver. Bremen*, v. p. 455 (1877); *Hume & Davison, Str. F.* 1878, vi. pp. 131, 501; *Hume, op. cit.* 1879, p. 52; *Sharpe, P. Z. S.* 1879, p. 327; *id. Ibis*, 1879, p. 243; *Tiraut, Ois. B. Cochinchine*, p. 88 (1879); *Salvad. Ann. Mus. Civ. Genov.* xiv. p. 184 (1879); *Kelham, Ibis*, 1881, p. 388; *Sharpe, P. Z. S.* 1881, p. 792; *Nicholson, Ibis*, 1882, p. 55; *Salvin, Cat. Strickl. Coll.* p. 402 (1882); *Müller, Orn. Salanga*, p. 72 (1882); *Blas. Verhandl. zool.-bot. Gesellsch. Wien*, 1883, p. 31; *Guillem. P. Z. S.* 1885, p. 405; *Trist. Cat. Coll.* p. 105 (1889).

Phaiopicus grammithorax, *Malh. Picidæ*, ii. p. 12, pl. xlviii. figs. 4, 5 (1862).

Picus tristis, var. *b*, *Sundev. Consp. Av. Picin.* p. 92 (1866).

Meiglyptes grammithorax, *Gray, List Picid. Brit. Mus.* p. 124 (1868); *id. Hand-l. B.* ii. p. 203, no. 8839 (1870); *Oates, B. Brit. Burm.* ii. p. 59 (1883).

Miglyptes tristis (*non Horsf.*), *Hume, Str. F.* 1879, p. 87.

Miglyptes grammithorax, *Hume, Str. F.* 1879, p. 497 (note); *Harg. Ibis*, 1884, p. 191; *Sharpe, P. Z. S.* 1887, p. 443; *Salvad. Ann. Mus. Civ. Stor. Nat. Genov.* 1887, pp. 519, 530.

Adult male. Mantle, scapulars, and wing-coverts black narrowly barred with white; lower back and rump buffy white; upper tail-coverts black narrowly barred with white; quills black, spotted with white on both webs, the innermost of all being barred right across; shafts black; tail black, spotted, more or less transversely, on both webs with white, shafts black; head, neck, and chest black, closely and finely vermiculated with white, or, on the chin, with buff; the lores and anterior half of orbital region buff; malar stripe crimson; underparts below the chest and the under tail-coverts black barred with buffy white, the bars less defined in the middle of the abdomen; under wing-coverts and axillaries uniform buffy white. Total length 6 inches, culmen 0·75, wing 3·55, tail 1·75, tarsus 0·7; toes (without claws)—outer anterior 0·52, outer posterior 0·55, inner anterior 0·35, inner posterior 0·22.

Adult female. Resembles the adult male, but wants the red malar stripe. Total length 5·8 inches, culmen 0·75, wing 3·47, tail 1·65, tarsus 0·7.

Fledgling female. In the grey phase; differs from the adult female in having the top of the head and the occiput dusky, with smoky white crescentic markings; the rump is even lighter buffy white than an adult grey-phased female; the underparts are not entirely barred below and quite as uniform on the middle of the breast and abdomen as in some adult birds. The general character, however, of the immature is to be browner in colour and entirely barred below.

Examples of this species from Nwalabo have the breast and abdomen darker and more uniform than from any other locality, and very much resemble *M. tristis*, but differ from it in having these parts brown instead of black, and the chest is always

barred. A very rufous male from Malacca, in which the top of the head has crescentic black markings on a brownish-white or buffy ground, is tinged with red on the forehead.

Hab. Tenasserim, from Nwalabo southward; entire Malayan Peninsula, including the islands of Salanga and Singapore; Sumatra and the island of Nias; throughout Borneo, but not in Labuan.

a. ♂ ad.; *b*, *c*. ♀ ad. sk.	Foot of Nwalabo, April 5, 1878 (*J. Darling*).	Hume Coll.
d, *e*. ♂ ad. sk.	Hankachin, Feb. 6, 1875 (*W. Davison*).	Hume Coll.
f–*l*. ♂ ad.; *m*–*q*. ♀ ad. sk.	Bankasoon, Dec., April, May, June (*W. Davison*).	Hume Coll.
r. ♂ ad. sk.	Coppah, Nov. 8, 1879 (*J. Darling*).	Hume Coll.
s, *t*, *u*. ♂ ad. et imm. sk.	Kossoum, May, July, Sept. (*J. Darling*).	Hume Coll.
v, *w*. ♂ ♀ ad.; *x*. ♀ juv. sk.	Tapraw, April 5, 1879 (*J. Darling*).	Hume Coll.
y. ♂ ad. sk.	Penang (*Dr. Cantor*).	India Museum.
z. ♂ ad. sk.	Dingding River, Feb. 28, 1879 (*W. Davison*).	Hume Coll.
a'–*l'*. ♂ ad. et imm.; *m'*–*v'*. ♀ ad. et imm. sk.	Klang, Salangore, Jan, Feb., March, April, July, Sept. (*W. Davison*).	Hume Coll.
w'. ♂ ad. sk.	Qualla Lampah, Salangore, March 18, 1879 (*W. Davison*).	Hume Coll.
x', *y'*. ♂ ♀ ad. sk.	Langhat, April 1879 (*W. Davison*).	Hume Coll.
z'. ♀ ad. sk.	Salangore, Nov. 1879 (*W. Davison*).	Hume Coll.
a'', *b''*, *c''*, *d''*. ♂ ad. et juv.; *e''*. ♀ ad. sk.	Malacca, July 1877 (*W. Davison*).	Hume Coll.
f'', *g''*. ♂ ad sk.	Malacca.	W. Harvey, Esq. [P.].
h'', *i''*. ♂ ad.; *k''*, *l''*. ♀ ad. et imm. sk.	Malacca (*Dr. Maingay*).	Tweeddale Coll.
m''. ♂ ad.; *n''*, *o''*. ♂ ♀ imm. sk.	Mt. Ophir, Malacca, Aug. 1873 (*R. G. W. R.*).	Tweeddale Coll.
p''. ♂ ad. sk.	Malacca (*A. R. Wallace*).	Tweeddale Coll.
q''. ♂ ad. sk.	Malacca.	Wallace Coll.
r'', *s''*. ♂ ad.; *t'*, *u''*. ♀ ad. sk.	Malacca (*Dr. Cantor*).	India Museum.
v'', *w''*. ♀ ad. sk.	Pulo Seban, Malacca, Nov. 1875 (*W. Davison*).	Hume Coll.
x'', *y''*. ♂ ad. sk.	Chohong, Malacca, Oct. 1875 (*W. Davison*).	Hume Coll.
z'', a^3. ♂ imm. sk.	Nealys, Malacca, Oct. 1875 (*W. Davison*).	Hume Coll.
b^3–e^3. ♂ ad. et imm.; f^3–k^3. ♀ ad. et imm. sk.	Foot of Gunnong Pulai, Johore, March, July, Aug. (*W. Davison*).	Hume Coll.
l^3, m^3. ♂ ♀ imm. sk.	Johore, March, Aug. (*W. Davison*).	Hume Coll.

n^3. ♀ ad. sk.	Singapore.	Gould Coll.
o^3. ♂ ad. sk.	Singapore.	Rajah Brooke [P.].
p^3. ♀ ad. sk.	Singapore Island, Feb. 6, 1879 (*W. Davison*).	Hume Coll.
q^3. ♂ ad. sk.	Sumatra.	Wallace Coll.
r^3. ♂ ad. sk.	Sumatra (*A. R. Wallace*).	Tweeddale Coll.
s^3. ♂ ad.; t^3. ♂ juv. sk.	Lampong, S.E. Sumatra (*E. C. Buxton*).	Tweeddale Coll.
u^3. ♀ ad. sk.	[Java.]	Tweeddale Coll.
v^3, w^3. ♂ ♀ ad. sk.	Borneo.	Rajah Brooke [P.].
x^3. ♂ ad. sk.	Sarawak.	Wallace Coll.
y^3. ♂ imm. sk.	Sarawak (*A. Everett*).	Hume Coll.
z^3, a^4. ♂ ♀ ad. sk.	Marup, Sarawak (*A. Everett*).	Tweeddale Coll.
b^4. ♀ ad. sk.	Simunjon, Sarawak(*A. Everett*).	Tweeddale Coll.
c^4, d^4. ♂ ♀ ad. sk.	Borneo (*H. Low*).	R. Bowdler Sharpe, Esq.[P.].
e^4. ♂ ad. sk.	Tegora, N.E. Borneo (*H. Everett*).	Tweeddale Coll.
f^4, g^4. ♂ ♀ ad.; h^4. ♂ imm. sk.	Lawas River, Borneo.	H. Veitch Esq. [P.].
i^4. ♂ ad. sk.	Banjarmassing (*J. Motley*).	Tweeddale Coll.

3. Miglyptes tukki.

Picus tukki, *Less. Rev. Zool.* 1839, p. 167.

Hemicercus brunneus, *Eyton, P. Z. S.* 1839, p. 106.

Picus luridus, *Nitzsch, Pteryl.* p. 137 (1840).

Meiglyptes brunneus, *Hartl. Syst. Verz. Mus. Hamb.* p. 93 (1844); *Gray, Gen. B.* ii. p. 447 (1846); *Bonap. Consp. Gen. Av.* i. p. 113 (1850); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 668, no. 976 (1856–58); *Sclat. P. Z. S.* 1863, p. 210; *Gray, List Picid. Brit. Mus.* p. 125 (1868); *id. Hand-l. B.* ii. p. 203, no. 8842 (1870).

Meiglyptes fuscus, *Peale, U.S. Expl. Exped.* viii. p. 131, pl. xxxvi. fig. 1 (1848).

Phaiopicos pectoralis (*non Latham*), *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 338.

Meiglyptes pectoralis (*non Lath.*), *Blyth, Cat. B. Mus. As. Soc.* p. 60 (1849); *Bp. Consp. Volucr. Zygod.* p. 9 (1854); *Reichenb. Scans. Picinæ*, p. 402, no. 938, pl. delvii. fig. 4372 (1854).

Phaiopicus pectoralis (*non Lath.*), *Malh. Picidæ*, ii. p. 8, pl. xlvii. figs. 5, 6 (1862).

Picus brunneus, *Sundev. Consp. Av. Picin.* p. 91 (1866).

Meiglyptes marginatus, *Reinw. MS.* (1821); *Stoliczka, J. A. S. B.* xxxix. p. 295 (1870).

Meiglyptes tukki, *Salvad. Ucc. Born.* p. 57 (1874); *Sharpe, P. Z. S.* 1875, p. 103; *Hume, Str. F.* 1875, p. 319; *Sharpe, Ibis*, 1876, p. 36; *Tweedd. op. cit.* 1877, p. 290; *Hume & Davison, Str. F.* 1878, vi. p. 132; *Hume, op. cit.* 1879, p. 52; *Sharpe, Ibis*, 1879, p. 243; *id. P. Z. S.* 1879, p. 327, 1881, p. 792; *Nicholson, Ibis*, 1882, p. 55; *Oates, B. Brit. Burm.* ii. p. 61 (1883); *Blas. Verhandl. zool.-bot. Gesellsch. Wien*, 1883, p. 31; *Guillem. P. Z. S.* 1885, p. 406.

Picus tukki, *Giebel, Thes. Orn.* iii. p. 183 (1876).
Meiglyptes tucci, *Brügg. Abhandl. nat. Ver. Bremen*, v. p. 455 (1877).
Miglyptes tukki, *Hume, Str. F.* 1879, p. 87; *Hargitt, Ibis*, 1884, p. 193; *Sharpe, P. Z. S.* 1888, p. 279.

Adult male. General colour olive-dusky, browner below; upper parts, including wing-coverts and tail-coverts, more or less vermiculated with pale buff; quills and tail-feathers brownish black, the former having marginal spots of buff on the outer webs and white spots upon the inner webs, the rectrices spotted with buff on both webs; shafts of quills and of tail-feathers blackish brown; head uniform dusky olive, with scarlet malar stripe; the chin and throat narrowly barred buff and dusky black; neck and chest almost black, and upon the side of the neck a conspicuous patch of buff, some of the lower feathers of the chest narrowly vermiculated with buff; middle of the breast and of the abdomen uniform; the sides of the body, flanks, thighs, and under tail-coverts darker and of a dusky olive, narrowly barred with buff or yellowish; under wing-coverts and axillaries yellowish white or buffy white, the latter having dusky bars. Total length 7·3 inches, culmen 1·05, wing 3·95, tail 2·4, tarsus 0·78; toes (without claws)—outer anterior 0·6, outer posterior 0·6, inner anterior 0·4, inner posterior 0·27.

Young male. Has the plumage less olive and more of a dusky brown; the feathers on the top of the head and on the occiput are tipped with dull brick-red and have a subapical dusky bar, the feathers of the malar region are also tipped with red; the chest and the entire under surface of the body are barred, and the innermost secondaries are also barred across both webs; under wing-coverts buffy or rufescent white, but without any yellow tinge.

Adult female. Resembles the adult male, but wants the red malar patch, the cheeks being brown barred with buffy white: "iris brown; legs and feet dull dirty green; lower mandible pale plumbeous olive; upper mandible black; claws pale horny brown" (*W. Davison*). Total length 7·3 inches, culmen 0·95, wing 4, tail 2·5, tarsus 0·82.

Hab. Extreme southern portion of Tenasserim; entire Malayan Peninsula to Singapore Island; Sumatra; Borneo, including the island of Banguey (but not in Labuan Island).

a–f. ♂ ad.; *g–l.* ♀ ad. sk.	Bankasoon, Dec., Feb., April, May, June (*W. Davison*).	Hume Coll.
m. ♂ ad. sk.	Dingding River, Feb. 25, 1879 (*W. Davison*).	Hume Coll.
n. ♂ ad. sk.	Mts. of Perak.	L. Wray, Esq.[P.].
o–r. ♂; ad. et imm.; *s–w.* ♀ ad. et imm. sk.	Klang, Salangore, Feb., March, April, May, July (*W. Davison*).	Hume Coll.
x. ♂ ad. sk.	Ulu Langhat, April 6, 1879 (*W. Davison*).	Hume Coll.
y, z. ♂ ad.; *a', b'.* ♀ ad. et imm. sk.	Malacca, July (*W. Davison*).	Hume Coll.

c'–f'. ♂ ad.; *g'–k'*. ♀ ad. sk.	Malacca, Aug. 1873 (*R. G. W. R.*).	Tweeddale Coll.
l'. ♂ ad. sk.	Malacca (*Dr. Maingay*).	Tweeddale Coll.
m'. ♂ ad. sk.	Malacca.	Wallace Coll.
n'. Juv. sk.	Malacca.	Old Coll.
o'–q'. ♂ ad.; *r'–u'*. ♀ ad. sk.	Malacca (*Dr. Cantor*).	India Museum.
v'. ♂ ad.; *w'*, *x'*. ♂ ♀ imm. sk.	Pulo Seban, Malacca, Nov. 13, 1875 (*W. Davison*).	Hume Coll.
y'. ♂ imm. sk.	Kuroo, Malacca, Oct. 31, 1875 (*W. Davison*).	Hume Coll.
z'. ♂ ad. sk.	Nealys, Malacca, Oct. 13, 1875 (*W. Davison*).	Hume Coll.
a'', *b''*, *c''*. ♂ ad.; *d''–h''*. ♀ ad. sk.	Gunnong Pulai, Johore, March, Sept. (*W. Davison*).	Hume Coll.
i''. ♂ ad. sk.	Jaffaria, Johore, March 20, 1880 (*W. Davison*).	Hume Coll.
k'', *l''*. ♂ ♀ ad. sk.	Johore, Aug., Sept. (*W. Davison*).	Hume Coll.
m'', *n''*. ♂ ♀ ad. sk.	Singapore.	Gould Coll.
o''. ♂ ad. sk.	Singapore Island, Aug. 1, 1875 (*W. Davison*).	Hume Coll.
p''. ♀ ad. sk.	Sumatra.	Wallace Coll.
q'', *r''*. ♂ ♀ ad. sk.	Lampong, S.E. Sumatra (*E. C. Buxton*).	Tweeddale Coll.
s''. ♀ ad. sk.	Sarawak (*H. Everett*).	Tweeddale Coll.
t'', *w''*. ♂ ♀ ad. sk.	N.W. Borneo (*H. Low*).	R. Bowdler Sharpe, Esq. [P.].
v''. ♂ ad. sk.	Sandakan.	Dr. McKinlay [P.].
w''. ♀ imm. sk.	Lawas River.	H. Veitch, Esq. [P.].
x'', *y''*. Skeletons.	[Java.]	Purchased.

4. Miglyptes infuscatus.

Miglyptes infuscatus, *Salvad. Ann. Mus. Civ. Stor. Nat. Genov.* ser. 2, iv. p. 531 (1887).

Adult (♀?), *sexed male*. In markings the present bird is almost a counterpart of *M. tukki*; therefore a detailed description is not necessary. *M. infuscatus* is an extremely dark form, the head being nearly black, and all the light markings on the plumage are rich buff or rufous buff, but its chief point of difference consists in its having the malar region *uniform* brown. The type specimen is sexed male, and, if this be correct, it is not only a very interesting feature, but adds to the specific value of the bird. The probability, however, is that the true male will be found to have a red malar stripe. Total length 7·5 inches, culmen 0·9, wing 3·65, tail 2·5, tarsus 0·83; toes (without claws)—outer anterior 0·62, outer posterior 0·62, inner anterior 0·4, inner posterior 0·25.

Hab. Island of Nias, west of Sumatra, whence the type specimen was obtained by Signor Elio Modigliani.

5. Miglyptes jugularis.

Meiglyptes jugularis, *Blyth, J. A. S. B.* xiv. p. 195 (1845); *id. Cat. B. Mus. As. Soc.* p. 60 (1849); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 669, no. 977 (1856–58); *Hume, Str. F.* 1874, p. 471; *id. & Oates, op. cit.* 1875, p. 14; *Hume & Davison, op. cit.* 1878, vi. pp. 132, 501; *Oates, B. Brit. Burm.* ii. p. 60 (1883).

Phaiopicus jugularis, *Malh. Picidæ*, ii. p. 11 (1862).

Hemicircus jugularis, *Gray, List Picid. Brit. Mus.* p. 71 (1868); *id. Hand-l. B.* ii. p. 191, no. 8670 (1870).

Miglyptes jugularis, *Hume, Str. F.* 1879, p. 87; *Bingham, op. cit.* 1880, p. 161; *Oates, op. cit.* 1882, p. 190; *Hargitt, Ibis*, 1884, p. 197; *Salvad. Ann. Mus. Civ. Stor. Nat. Genova*, 1888, p. 568.

Adult male. Back, scapulars, upper tail-coverts, tail and the shafts black, the rump buffy white; a very conspicuous patch of buffy white extends along the forearm and comprises some of the median and the greater wing-coverts, the remainder of the coverts black, with a few transverse white spots; quills black, with minute white spots on the outer webs and larger spots on the inner webs, the innermost feathers barred with white right across; shafts black; head black, the lores spotted, the remainder finely vermiculated with buffy white; occipital crest uniform black; a small dull red malar patch; side of the neck and hind neck buffy white, this forming a distinct collar, and a branch from it, on the side of the neck, running on to the side of the chest; from the chin to the under tail-coverts, inclusive, black, the chin and throat spotted with white, the sides of the body, flanks, and thighs transversely varied with white; under wing-coverts and axillaries uniform buffy white: "bill and claws black; legs and feet dirty dull green; irides dark brown" (*J. Darling*). Total length 6·5 inches, culmen 0·93, wing 4·05, tail 1·8, tarsus 0·8; toes (without claws)—outer anterior 0·55, outer posterior 0·55, inner anterior 0·35, inner posterior 0·28.

Adult female. Wants the red malar patch, but otherwise resembles the male. Total length 6·5 inches, culmen 0·85, wing 4, tail 1·8, tarsus 0·78.

In this species, as in the other members of the genus, the light portions of the plumage vary from buffy white, sometimes tinged with yellow, to buff or rufous buff. It does not appear to be a question of age, as male birds thus differing have the red malar stripe equally bright in colour.

Hab. British Burmah (Arrakan and Pegu Hills, and Tenasserim south to Toungyah); Siam; Cochin China *.

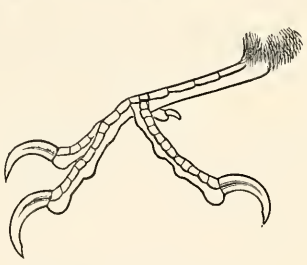
a. ♂ ad. sk.	E. Pegu Hills, April 27, 1873 (*E. W. Oates*).	Hume Coll.
b. ♂ imm. sk.	Tonghoo.	Tweeddale Coll.
c. ♂ ad. sk.	Tjaloba, Tenasserim, April 1877 (*Limbory*).	Tweeddale Coll.

* An example from this country (collected by Dr. Harmand) is in the Paris Museum.

d. ♀ ad. sk.	Pahpoon, Jan. 8, 1874 (*W. Davison*).	Hume Coll.
e, f. ♂ ♀ ad. sk.	Meplaychoung, Thoungyeen Valley, Feb. 1880 (*C. T. Bingham*).	Hume Coll.
g. ♂ ad. sk.	Kappa Village, Zamee River, March 6, 1878 (*C. T. Bingham*).	Hume Coll.
h, i. ♂ ad. sk.	Assoon, March 3, 1877 (*W. Davison*).	Hume Coll.
k, l, m. ♂ ad.; *n.* ♀ ad. sk.	Meetan, Feb. 1877 (*W. Davison*).	Hume Coll.
o. ♀ ad. sk.	Amherst, Jan. 24, 1877 (*W. Davison*).	Hume Coll.
p. ♀ imm. sk.	Lemyne, near Yea, March 28, 1874 (*W. Davison*).	Hume Coll.
q, r. ♂ ♀ imm. sk.	Yea, April 22, 1874 (*W. Davison*).	Hume Coll.
s. ♂ ad. sk.	Kya Yoo, Jan. 5, 1878 (*W. Davison*).	Hume Coll.
t–y. ♂ ad. et. imm.; *z.* ♀ ad. sk.	Tavoy, March, April (*W. Davison*).	Hume Coll.
a'. ♀ ad. sk.	Foot of Nwalabo, April 8 (*W. Davison*).	Hume Coll.
b', c'. ♂ ad.; *d'.* ♀ ad. sk.	Thoungyah, Nov. 28 (*J. Darling*).	Hume Coll.
e'. ♂ ad. sk.	Siam.	Gould Coll.

29. MICROPTERNUS.

	Type.
Micropternus, *Blyth, J. A. S. B.* 1845, p. 194	M. brachyurus.
Phaiopicos, *Malh. Mém. Acad. Metz,* 1848–49, p. 336.	M. brachyurus.



Foot of *Micropternus phæoceps.*

Range. Indian Region; China and the countries south; Malayan Peninsula, and into the islands of Sumatra, Java, and Borneo.

Key to the Species *.

A. Above rufous, more or less barred with black.
  a'. Shafts of quills clear orange-reddish; feathers of the chin and throat unicolorous with the underparts, but with paler margins; tail narrowly barred with black; with red spot under the eye ..... *phæoceps* ♂ ad., [p. 394.
  b'. Shafts of quills dark brown, dusky, or reddish brown.
    a''. Feathers of the chin and throat darker than the underparts; the red on the face confined to a spot under the eye.
      a'''. Feathers of the chin and throat entirely margined with white or buffy white; tail barred equally rufous and black ..... *brachyurus* † ♂ ad., [p. 396.
      b'''. Feathers of the chin and throat margined with white only on the apical portion; tail narrowly barred with black ..... *gularis* ♂ ad., [p. 399.
    b''. Feathers of the chin and throat unicolorous with the underparts; apical third (or more) of the tail-feathers black; eye entirely surrounded with red..... *badiosus* ♂ ad., [p. 401.
B. Above dark brown, narrowly barred with rufous, with red spot under the eye.
  c'. Larger: length 8·3 inches, culmen 1·1, wing 5; the central stripe on the feathers of the chin and throat darker than the underparts; head and neck much lighter than the body; upper parts distinctly barred ..... *fokiensis* ♂ ad., [p. 402.
  d'. Smaller: length 7·5 inches, culmen 1, wing 4·5; centres of the feathers of the chin and throat unicolorous with the underparts; head and neck only slightly lighter than the body; the rufous barring on the back and rump almost obsolete ..... *holroydi* ♂ ad., [p. 403.

1. Micropternus phæoceps.

Picus rufus (*non Gmel.*), *Gray, Hardw. Ill. Ind. Zool.* pl. xxix. fig. 2 (1821–22).

Meiglyptes badius (*non Raffl.*), *Hodgs. in Gray's Zool. Misc.* 1844, p. 85.

Micropternus phaioceps, *Blyth, J. A. S. B.* xiv. pp. 195, 551 (1845); *id. Cat. B. Mus. As. Soc.* p. 60 (1849); *Bp. Consp. Volucr. Zygod.* p. 9 (1854); *Tytler, Ann. & Mag. Nat. Hist.* 1854, p. 367; *Reichenb. Scans. Picinæ*, p. 403, no. 939, pl. dclvii. fig. 4373 ♀,

* I have not entered the females of the species in the Key. They differ from the males solely in the absence of red on the face.

† In the extreme north of Tenasserim where this species meets *M. phæoceps*, it is very probable that they interbreed, individuals occurring which possess the characters of both species. It is almost an impossibility to determine these birds, and I have included them in the species to which I think they are most nearly related.

pl. dclviii. fig. 4377 ♀ (1854); *Horsf. & Moore, Cat. B. E.I. Co. Mus.* ii. p. 667 (1856–58); *Jerd. B. Ind.* i. p. 294 (1862); *Gray, Cat. Mamm. &c. Nepal pres. Hodgs.* p. 64, no. 488 (1863); *Jerd. Ibis*, 1872, p. 10; *Godwin-Austen, J. A. S. B.* xliii. p. 176 (1874); *Ball, Str. F.* 1874, p. 392; *Hume, t. c.* p. 472; *id. & Oates, op. cit.* 1875, p. 72; *Blyth & Wald. B. Burm.* p. 77 (1875); *Gammie, Str. F.* 1876, p. 511; *Hume, op. cit.* 1877, p. 480; *id. op. cit.* 1878, vi. pp. 145, 501; *Ball, op. cit.* 1878, vii. p. 206, *Cripps, t. c.* p. 262; *Scully, op. cit.* 1879, pp. 249, 365.

Meiglyptes brachyurus (*non Vieill.*), *Gray, Cat. Mamm. &c. Nepal pres. Hodgs.* p. 117 (1846).

Phaiopicos blythii, *Malh. Rev. et Mag. Zool.* 1849, p. 534.

Meiglyptes phaioceps, *Gray, Gen. B.* iii. App. p. 22 (1849); *id. List Picid. Brit. Mus.* p. 124 (1868); *id. Hand-l. B.* ii. p. 203, no. 8840 (1870).

Meiglyptes rufinotus, *Bp. Consp. Gen. Av.* i. p. 113 (1850).

Phaiopicus rufinotus, *Malh. Picidæ*, ii. p. 1, pl. xlvi. figs. 1, 2 (1862).

Micropternus phæoceps, *Beavan, Ibis*, 1865, p. 411; *Bulger, op. cit.* 1869, p. 157; *Hume, Str. F.* 1879, p. 88; *id. op. cit.* 1880, p. 112; *Bingham, t. c.* p. 164; *Oates, op. cit.* 1882, x. p. 192; *id. B. Brit. Burm.* ii. p. 57 (1883); *Hargitt, Ibis*, 1885, p. 3; *Salvad. Ann. Mus. Civ. Stor. Nat. Genova*, 1887, p. 580, 1888, p. 568; *Hume, Str. F.* xi. p. 64 (1888).

Picus rufinotus, *Sundev. Consp. Av. Picin.* p. 88 (1866); *Giebel, Thes. Orn.* iii. p. 178 (1876).

Micropternus burmanicus, *Hume, P. A. S. B.* 1872, pp. 70, 71.

Micropternus rufinotus, *Godw.-Aust. J. A. S. B.* 1876, p. 70.

Micropternus brachyurus (*non Vieill.*), *Tiraut, Ois. Basse Cochinchine*, p. 90 (1879).

Adult male. General colour rufous, the top of the head dusky brown; above, including wings and tail and their coverts, entirely and narrowly barred with black, the bars on the tail much narrower than the interspaces; the tips of the primaries and of the central tail-feathers black; shafts of quills clear orange-brown, those of the tail-feathers darker and of a dusky-reddish colour; immediately below the eye a crimson spot; feathers of the chin, throat, and malar region of the same colour as the underparts, each web margined with pale ochreous; underparts with only a few black bars on the flanks and thighs, and the under tail-coverts having some almost obsolete bars of black: under wing-coverts with only a few transverse black spots. Total length 8·5 inches, culmen 1·18, wing 4·9, tail 2·5, tarsus 0·9; toes (without claws)—outer anterior 0·72, outer posterior 0·68, inner anterior 0·5, inner posterior 0·28.

Adult female. Resembles the adult male, but wants the red spot below the eye. Total length 8 inches, culmen 1·07, wing 4·75, tail 2·6, tarsus 0·85.

Younger birds have the underparts considerably varied with black crescentic markings. The soft parts in this species are as follows:—"irides brown; eyelids plumbeous; bill dark brown, nearly black, plumbeous at base of lower mandible; inside of mouth rosy fleshy; legs and feet greyish brown; claws horn-colour" (*E. W. Oates*).

Hab. North-eastern India (extending west to Dehra Dhoon) and

Central India; Assam; Cachar and Manipur; southwards through the Burmese Provinces as far as Moulmein; Siam, Cambodia, and Cochin China.

a. ♂ ad. sk.	India (*Jerdon*).	Gould Coll.
b, *c*. ♂ ad. sk.	Dehra Dhoon, Nov. 1870.	Hume Coll.
d. ♂ ad. sk.	Eastern Dhoon.	Hume Coll.
e. ♂ ad. sk.	Mugdagnee River, Gurhwal, March 1, 1870 (*J. Blackett*).	Hume Coll.
f. ♂ ad. sk.	Kumaon Bhabur, March 18, 1871.	Hume Coll.
g. ♂ ad. sk.	Kumaon.	Tweeddale Coll.
h. ♂ ad. sk.	Kumaon (*Strachey*).	India Museum.
i. ♀ ad. sk.	Naini Tal.	Pinwill Coll.
k, *l*, *m*. ♂ ad.; *n*–*q*. ♀ ad. et juv. sk.	Nepal.	Hodgson Coll.
r, *s*. ♂ ♀ ad. sk.	Nepal (*B. H. Hodgson*).	India Museum.
t. ♂ ad. sk.	Behar.	Hodgson Coll.
u. ♀ ad. sk.	Tirhoot Dist., April 23, 1869.	Hume Coll.
v. ♀ ad. st.	Bengal.	India Museum.
w. ♂ ad. sk.	Bengal.	India Museum. (Type of *P. rufinotus*, Malh.)
x. ♀ ad. sk.	Kashargur, Manbhoom, April 1864 (*R. C. Beavan*).	Tweeddale Coll.
y, *z*. ♂ ad.; *a'*, *b'*. ♀ ad. et imm. sk.	Dacca.	Hume Coll.
c'. ♂ ad.; *d'*. ♀ juv. sk.	Native Sikhim, July 1874 (*L. Mandelli*).	Hume Coll.
e'–*k'*. ♂ ad.; *i'*–*n'*. ♀ ad. sk.	Sikhim, Dec., Jan., Feb., April, May (*L. Mandelli*).	Hume Coll.
o'. ♀ ad. sk.	Sikhim (*J. Biddulph*).	Tweeddale Coll.
p'–*s'*. ♂ ad. et imm.; *t'*, *u'*. ♀ ad. et imm. sk.	Darjeeling, Feb., March.	Hume Coll.
v'. ♂ ad. sk.	Buxa Doars, Feb. 1878 (*L. Mandelli*).	Hume Coll.
w'. ♂ ad. sk.	Bhotan Doars, Feb. 1873 (*L. Mandelli*).	Hume Coll.
x', *y'*. ♂ ♀ ad. sk.	N. Khasia Hills, Feb. 1876 (*A. W. Chennell*).	Tweeddale Coll.
z'. ♂ ad. sk.	Assam.	Tweeddale Coll.
a'', *b''*. ♂ imm. sk.	Tippook, March, April (*J. Cockburn*).	Hume Coll.
c''. ♂ ad. sk.	Dollah, April 26, 1877 (*J. Cockburn*).	Hume Coll.
d'', *e''*, *f''*. ♂ ad. et imm.; *g''*. ♀ ad. sk.	Dibrughur, May, June, Sept. (*J. R. Cripps*).	Hume Coll.
h'', *i''*. ♂ ad. sk.	Manipur, Feb., March (*A. O. H.*).	Hume Coll.
k''. ♀ imm. sk.	Tipperah, Jan. 1871.	Hume Coll.
l'', *m''*, *n''*. ♂ ad.; *o''*, *p''*, *q''*. ♀ ad. et imm. sk.	Tonghoo, Nov., Feb. (*R. G. W. R.*).	Tweeddale Coll.
r''. ♂ ad. sk.	Thayetmyo.	Hume Coll. (Type of *M. burmanicus*, Hume.)
s'', *t''*. ♂ ♀ ad. sk.	Pegu Hills, April 1873 (*E. W. Oates*).	Hume Coll.

u''. ♂ ad. sk.	Pegu, Dec. 24, 1873 (*R. G. W. R.*).	Tweeddale Coll.
v''. ♂ ad.; *w''*, *x''*. ♀ ad. sk.	Bassein, Pegu.	W. T. Blanford, Esq. [P.].
y''. ♂ ad. sk.	Tenasserim, Jan. 17, 1877 (*W. Limborg*).	Tweeddale Coll.
z'', a^3. ♂ ♀ ad sk.	Thoungyeen River, Oct., Feb. (*C. T. Bingham*).	Hume Coll.
b^3–e^3. ♂ ad. et imm.; f^3. ♀ ad. sk.	Kaukaryit, June, July, Aug., Sept. (*J. Darling*).	Hume Coll.
g^3. ♀ ad. sk.	Thatone, Jan. (*W. Davison*).	Hume Coll.
h^3. ♀ ad. sk.	Moulmein, Dec. (*W. Davison*).	Hume Coll.
i^3. Bones of trunk.		

Subsp. *a*. **Micropternus brachyurus.**

Picus brachyurus, *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 103 (1818); *Bonn. & Vieill. Enc. Méth.* p. 1324 (1823); *Wagl. Syst. Av.* Picus, sp. 71 (1827); *Drap. Dict. Class. Hist. Nat.* xiii. p. 505 (1828); *Sundev. Consp. Av. Picin.* p. 89 (1866).

Picus badius, *Raffl. Trans. Linn. Soc.* xiii. p. 289 (1822); *Sundev. Consp. Av. Picin.* p. 90 (1866).

Hemicircus badius, *Eyton, P. Z. S.* 1839, p. 106.

Micropternus badius, *Blyth, J. A. S. B.* xiv. p. 551 (1845); *id. Cat. B. Mus. As. Soc.* p. 61 (1849); *Reichenb. Scans. Picinæ*, p. 403, no. 940, pl. dclviii. fig. 4374 (1854); *Horsf. & Moore, Cat. B. E.I. Co. Mus.* p. 666 (1856–58); *Hume, Str. F.* 1875, p. 319; *Tweedd. Ibis*, 1877, p. 289; *Salvad. Ann. Mus. Civ. Genov.* xiv. p. 184 (1879); *Nicholson, Ibis*, 1881, p. 141; *id. op. cit.* 1882, p. 55.

Meiglyptes brachyurus, *Gray, Gen. B.* iii. App. p. 22 (1849); *Bp. Consp. Gen. Av.* i. p. 113 (1850); *Gray, List Picid. Brit. Mus.* p. 125 (1868); *id. Hand-l. B.* ii. p. 203, no. 8843 (1870).

Phaiopicos brachyurus, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 337; *id. Rev. Zool.* 1849, p. 536.

Micropternus gularis (pt.), *Reichenb. Scans. Picinæ*, p. 403, no. 941, pl. dclviii. figs. 4375-4376, ♀ ♂ (1854).

Micropternus brachyurus, *Bp. Consp. Volucr. Zygod.* p. 9 (1854); *Gray, List Gen.* 1855, p. 94; *Stoliczka, J. A. S. B.* 1870, p. 293; *Hume, Str. F.* 1877, pp. 480, 481; *id. & Davison, op. cit.* 1878, vi. p. 145; *Hume, op. cit.* 1879, pp. 52, 88; *Müller, Orn. Ins. Salanga*, p. 72 (1882); *Oates, B. Brit. Burm.* ii. p. 58 (1883); *Hargitt, Ibis*, 1885, p. 10; *Sharpe, P. Z. S.* 1888, p. 279.

Phaiopicus brachyurus, *Malh. Picidæ*, ii. p. 5, pl. xlvi. figs. 4, 5 (1862).

Picus squamigularis, *Sundev. Consp. Av. Picin.* p. 89 (1866).

Meiglyptes badius, *Gray, List Picid. Brit. Mus.* p. 126 (1868); *id. Hand-l. B.* ii. p. 203, no. 8845 (1870).

Meiglyptes squamigularis, *Gray, List Picid. Brit. Mus.* p. 126 (1868); *id. Hand-l. B.* ii. p. 203, no. 8844 (1870).

Adult male. General colour rufous, the back and rump with crescentic markings or bars of black, the upper tail-coverts, scapulars, wing-coverts, and quills barred with black; shafts of quills brown; tail entirely and narrowly barred with black, the bars well defined and rather less in width than the interspaces; shafts

blackish brown; feathers of the forehead and crown centred with dusky brown; immediately below the eye a patch of crimson; feathers of the chin, throat, and malar region very dark brown, entirely margined with dull buffy white, some of the feathers having a pale rufescent basal shaft-streak; under surface of the body with a few almost obsolete black bars on the flanks and thighs, the under tail-coverts similarly marked; under wing-coverts transversely spotted with black: "irides reddish brown; upper mandible black; lower mandible black at tip, and behind dirty white; legs and feet grey" (*H. O. Forbes*). Total length 7·5 inches, culmen 1·05, wing 4·25, tail 2·25, tarsus 0·83; toes (without claws)—outer anterior 0·62, outer posterior 0·57, inner anterior 0·47, inner posterior 0·25.

Adult female. Differs from the adult male in wanting the red patch under the eye. Total length 7 inches, culmen 1, wing 4·2, tail 2·05, tarsus 0·8.

Immature birds have the head lighter, and the feathers of the chin and throat of a less dark brown. In very young specimens the dark centres to these feathers are of a still paler brown, and the dark centres of the occipital feathers have a spotted character. I have seen an example of a young female in which the rufous nuchal feathers were tinged with red; but this would appear to be of very unusual occurrence, and I regard it as purely accidental.

Hab. Tenasserim Province *; Malayan Peninsula, including the island of Salanga, south to Singapore; Sumatra, Bangka, and Java.

a. ♂ ad. sk.	Tenasserim.	J. C. D. Packman, Esq. [P.].
b. ♂ ad. sk.	Tenasserim, March 28, 1877 (*W. Limborg*).	Tweeddale Coll.
c. ♀ ad.; *d.* ♂ imm. sk.	Pahpoon, Jan. 13, 1874 (*W. Davison*).	Hume Coll.
e. ♀ ad. sk.	Beeling, Feb. 11, 1876 (*W. Davison*).	Hume Coll.
f, g, h. ♂ ad.; *i, k, l.* ♀ ad. et imm. sk.	Kaukaryit, Jan., Aug., Sept.	Hume Coll.
m. ♀ ad. sk.	Wimpong, Dec. 9, 1876 (*W. Davison*).	Hume Coll.
n. ♀ ad. sk.	Thatone, Dec. 17, 1876 (*W. Davison*).	Hume Coll.
o. ♂ imm. sk.	Houngthraw R., Jan. 8, 1877 (*W. Davison*).	Hume Coll.
p. ♀ ad.; *q.* ♀ imm. sk.	Myawadee, Jan. 20, 1877 (*W. Davison*).	Hume Coll.
r. ♂ ad. sk.	Moulmein, Nov. 27, 1876 (*W. Davison*).	Hume Coll.

* In the extreme north the species probably interbreeds with *M. phæoceps*, which also occurs there, birds possessing intermediate characters being often found.

s, *t*. ♂ ad.; *u*–*y*. ♀ ad. sk.	Amherst, Dec., Jan., March, June (*W. Davison*).	Hume Coll.
z, *a'*. ♂ ad. et juv.; *b'*, *c'*. ♀ imm. sk.	Meeta Myo, April 1874 (*W. Davison*).	Hume Coll.
d'–*k'*. ♂ ad. et imm.; *l'*–*r'*. ♀ ad. et imm. sk.	Tavoy, March, April, May (*W. Davison*).	Hume Coll.
s'. ♂ imm. sk.	Nwalabo, March 27, 1878 (*W. Davison*).	Hume Coll.
t'. ♀ ad. sk.	Mergui, Dec. 2, 1874 (*W. Davison*).	Hume Coll.
u', *v'*. ♂ ♀ ad. sk.	Pakchan, Jan. 1875 (*W. Davison*).	Hume Coll.
w'–*z'*. ♂ ad.; *a''*, *b''*, *c''*. ♀ ad. et imm. sk.	Bankasoon, April, June (*W. Davison*).	Hume Coll.
d''. ♂ ad.; *e''*. ♂ imm. sk.	Malewoon, April 1877 (*W. Davison*).	Hume Coll.
f'', *g''*. ♂ ad. sk.	Kossoum, April, May (*J. Darling*).	Hume Coll.
h''. ♂ ad. sk.	Taroar, Feb. 7, 1879 (*J. Darling*).	Hume Coll.
i'', *k''*. ♂ juv. sk.	Tapraw, April 4, 1879 (*J. Darling*).	Hume Coll.
l'', *m''*. ♀ ad. et imm. sk.	Penang, Dec. (*W. Davison*).	Hume Coll.
n''. ♂ imm. sk.	Killan, Salangore, Jan. 29, 1880 (*W. Davison*).	Hume Coll.
o''–*r''*. ♂ ad.; *s''*–*y''*. ♀ ad. sk.	Klang, Jan., Feb., March, April, July (*W. Davison*).	Hume Coll.
z''. ♂ ad.; *a*³. ♂ imm. sk.	Salangore, Nov. 1879 (*W. Davison*).	Hume Coll.
*b*³–*e*³. ♂ ad. et imm.; *f*³–*i*³. ♀ ad. sk.	Malacca, Jan., July, Aug. (*W. Davison*).	Hume Coll.
*k*³–*n*³. ♂ ad. et imm.; *o*³, *p*³. ♀ ad. et imm. sk.	Malacca, Aug. 1873 (*R. G. W. R.*).	Tweeddale Coll.
*q*³, *r*³. ♂ ♀ ad. sk.	Malacca (*Dr. Maingay*).	Tweeddale Coll.
*s*³–*v*³. ♂ ad.; *w*³–*b*⁴. ♀ ad. et imm. sk.	Malacca (*Dr. Cantor*).	India Museum.
*c*⁴. ♀ ad.; *d*⁴. ♂ imm. sk.	Malacca (*A. R. Wallace*).	Gould Coll.
*e*⁴. ♀ ad. sk.	Pulo Seban, Malacca, Dec. 13, 1875 (*W. Davison*).	Hume Coll.
*f*⁴, *g*⁴. ♂ ad.; *h*⁴, *i*⁴. ♀ ad. sk.	Gunnong Pulai, Johore, Aug. 1879 (*W. Davison*).	Hume Coll.
*k*⁴, *l*⁴. ♂ ♀ ad. sk.	Singapore Island, Feb., Aug. (*W. Davison*).	Hume Coll.
*m*⁴. ♀ ad. sk.	Sumatra (*Raffles*).	India Museum.
*n*⁴. ♀ ad. sk.	Sumatra.	Wallace Coll.
*o*⁴, *p*⁴. ♀ ad. et imm. sk.	Sumatra, Aug. (*Carl Bock*).	Tweeddale Coll.

q^1, r^1, s^1. ♀ ad. sk.	Lampong, S.E. Sumatra (*E. C. Buxton*).	Tweeddale Coll.
t^1. ♀ ad. sk.	Billiton.	Tweeddale Coll.
u^1. ♂ ad. sk.	[Java.]	Tweeddale Coll.

2. Micropternus gularis.

Micropternus gularis, *Jerd. Madr. Journ.* xiii. p. 139 (1844); *Blyth, J. A. S. B.* 1846, p. 17; *id. Cat. B. Mus. As. Soc.* p. 61 (1849); *Bp. Consp. Volucr. Zygod.* p. 9 (1854, pt.); *Reichenb. Scans. Picinæ*, p. 403, no. 941, pl. dclviii. figs. 4375–4376, ♀ ♂ (1854); *Jerd. B. Ind.* i. p. 294 (1862); *Blyth, Ibis*, 1867, p. 297; *Hume, Str. F.* 1873, p. 434; *Blanf. Ibis*, 1874, p. 92; *Legge, Str. F.* 1875, p. 201; *id. Ibis*, 1875, p. 283; *Fairbank, Str. F.* 1876, pp. 255, 265; *Hume, op. cit.* 1877, pp. 480, 481; *id. op. cit.* 1879, p. 88; *Legge, B. Ceyl.* p. 200 (1880); *Butl. Cat. B. S. Bomb. Presid.* p. 24 (1880); *Vidal, Str. F.* 1880, p. 53; *Butl. t. c.* p. 386; *Davison, Str. F.* x. p. 356 (1883); *Hargitt, Ibis*, 1885, p. 7.

Phaiopicos jerdoni, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 338; *id. Rev. Zool.* 1849, p. 535.

Meiglyptes gularis, *Gray, Gen. B.* iii. App. p. 22 (1849); *Bp. Consp. Gen. Av.* i. p. 113 (1850); *Gray, List Picid. Brit. Mus.* p. 125 (1868); *id. Hand-l. B.* ii. p. 203, no. 8841 (1870).

Micropternus phaioceps (*non Blyth*), *Layard, Ann. & Mag. Nat. Hist.* 2nd ser. xiii. p. 450 (1854).

Phaiopicus jerdoni, *Malh. Picidæ*, ii. p. 3, pl. xlvii. figs. 1, 2, 3 (1862).

Picus gularis (*non Wagl.*), pt., *Sundev. Consp. Av. Pic* (1866).

Adult male. General colour rufous, the top of the head, also the chin and throat, browner, the feathers of the chin and throat having a dark brown crescent-shaped subapical marking, the apical margin being whitish; immediately below the eye a patch of crimson; back, rump, and upper tail-coverts with almost obsolete narrow black bars, the wings narrowly but distinctly barred with black, the tips of the outermost quills black; shafts of quills reddish brown; tail with narrow and incomplete bars of black, the shafts brown; entire under surface of the body and the under tail-coverts uniform, with the exception of some almost obsolete black bars on the flanks and thighs; under wing-coverts barred with black. Total length 9 inches, culmen 1·25, wing 5, tail 2·6, tarsus 0·9; toes (without claws)—outer anterior 0·7, outer posterior 0·6, inner anterior 0·55, inner posterior 0·23.

Adult female. Differs from the adult male in wanting the red spot under the eye: "bill dull black; legs, feet, and claws the same, but tinged with plumbeous; irides deep brown" (*W. Davison*). Total length 8·5 inches, culmen 1·1, wing 4·8, tail 2·4, tarsus 0·88.

Hab. The Peninsula of India and Ceylon; the most northerly range appears to be South Konkan.

a. ♀ ad. sk.	[Assam] (*McClelland*).	India Museum *.
b. ♀ imm. sk.	Ratnaghiri, April 17, 1878 (*J. Armstrong*).	Hume Coll.
c. ♀ ad. sk.	Gohagar, S. Konkan, March 18, 1879 (*G. Vidal*).	Hume Coll.
d. ♀ ad. sk.	Pewe, S. Konkan, April 2, 1879 (*G. Vidal*).	Hume Coll.
e. ♂ ad. sk.	Purdaria, N. Canara, May 3, 1877 (*H. C. James*).	Hume Coll.
f, *g*. ♂ ♀ ad. sk.	Madras.	Rev. H. H. Baber [P.].
h. ♂ ad. sk.	Madras.	India Museum.
i. ♀ ad. sk.	Madras.	W. Elliott, Esq. [P.].
k. ♂ ad. sk.	Seegore Ghat.	Hume Coll.
l, *m*. ♂ ad.; *n*, *o*. ♀ ad. sk.	Wynaad, April, May (*W. Davison*).	Hume Coll.
p, *q*. ♂ ♀ ad. sk.	Malabar.	Tweeddale Coll.
r, *s*. ♂ imm. sk.	Cannanore, Oct. 1882 (*R. G. W. R.*).	Tweeddale Coll.
t. ♂ ad. sk.	Calicut, Jan. 9, 1883 (*Haines*).	Tweeddale Coll.
u. ♀ ad. sk.	Calicut.	Hume Coll.
v. ♂ ad. sk.	Nilghiris, June 9, 1874.	Hume Coll.
w. ♀ ad. sk.	Ootacamund, Feb. 7, 1881 (*W. Davison*).	Hume Coll.
x. ♂ ad. sk.	Tippokardu, foot of Nilghiris, May 25, 1881 (*W. Davison*).	Hume Coll.
y. ♂ ad. sk.	Burliar, July.	Hume Coll.
z. ♀ ad. sk.	Kullar.	Hume Coll.
a', *b'*, *c'*. ♂ ad.; *d'*–*g'*. ♀ ad. sk.	Anjango, Travancore, Dec.	Hume Coll.
h'. ♀ ad. sk.	Ceylon.	Gould Coll.
i', *k'*. ♂ ad.; *l'*. ♀ ad.; *m'*, *n'*. Juv. sk.	Ceylon (*H. Nevill*).	Tweeddale Coll.
o'. ♂ ad. sk.	Ceylon, Feb. 1872.	Hume Coll.
p'. ♂ ad. sk.	Ceylon, June 29, 1876.	Col. Legge [P.].
q', *r'*. ♂ ad.; *s'*. Juv. sk.	Ceylon, April, Nov. (*S. Chapman*).	Tweeddale Coll.

3. Micropternus badiosus.

Meiglyptes badiosus, *Temm. Mus. Lugd.*; *Bp. Consp. Gen. Av.* i. p. 113 (1850); *Sclater, P. Z. S.* 1863, p. 210; *Gray, List Picid. Brit. Mus.* p. 126 (1868); *id. Hand-l. B.* ii. p. 203, no. 8646 (1870).

Micropternus badiosus, *Bp. Consp. Volucr. Zygod.* p. 9 (1854); *Reichenb. Scans. Picinæ*, p. 404, no. 942 (1854); *Salvad. Ucc. Born.* p. 58 (1874); *Sharpe, P. Z. S.* 1875, p. 103; *Hume, Str. F.* 1877, pp. 480, 481; *Sharpe, Ibis*, 1879, p. 243; *id. P. Z. S.* 1881, p. 792; *id. Ibis*, 1883, p. 89; *Blas. Verhandl. zool.-bot. Gesellsch. Wien*, 1883, p. 32; *Hargitt, Ibis*, 1885, p. 6.

* I cannot place this specimen anywhere but under the present species. If the labelling be correct, I am unable to account for the species reappearing in Assam; for my own part I rather doubt it, and think there has been some mistake. The Assam species is *M. phæoceps*.

Phaiopicus badiosus, *Malh. Picidæ*, ii. p. 6 (1882).
Picus badiosus, *Sundev. Consp. Av. Picin.* p. 91 (1866); *Giebel, Thes. Orn.* iii. p. 143 (1876).

Adult male. General colour rufous, slightly dusky on the top of the head; back, rump, scapulars, and wing-coverts sometimes nearly uniform, but more often considerably barred with black; quills narrowly barred with black, the tips of the primaries black; shafts brown; upper tail-coverts distinctly barred across both webs, but in extremely old birds there exists a broken intermarginal line on the apical half, the basal half having an irregular and broad shaft-stripe or broken bars of black; tail black, the basal half narrowly barred with rufous, shafts black; the feathers of the entire orbital region tipped with crimson; the feathers of the chin, throat, and malar region of the same colour as the underparts, but margined (except at the tip) with whitish; underparts almost entirely uniform, with only the faintest trace of blackish transverse markings on the flanks, thighs, and under tail-coverts; under wing-coverts and axillaries unspotted: "iris dull red" (*Doria*). Total length 7·5 inches, culmen 1·03, wing 4·25, tail 2·15, tarsus 0·83; toes (without claws)—outer anterior 0·63, outer posterior 0·57, inner anterior 0·55, inner posterior 0·15.

Adult female. Resembles the male, but wants the red on the orbital region. Total length 7·2 inches, culmen 1·05, wing 4·23, tail 2·25, tarsus 0·83.

The young are duller on the underparts as well as upon the chin and throat, and the white edging to the feathers of the latter parts is not so well defined; the upper parts are almost entirely uniform, as in the adult.

Labnan examples of this species are very dark. A male in the Collection has the occipital feathers tipped with dull crimson, but this is apparently only individual variation.

Hab. Borneo *.

a. ♀ ad. sk.	[Sumatra] (*Mus. Lugd.*).	Salvin-Godman Coll.
b. Juv. sk.	Borneo.	Wallace Coll.
c. ♂ ad. sk.	Sarawak.	Wallace Coll.
d. ♂ ad. sk.	Simunjon, Sarawak (*A. Everett*).	Tweeddale Coll.
e, *f*. ♂ ♀ ad. sk.	Labuan (*H. Low*).	R. Bowdler Sharpe, Esq. [P.].
g. ♂ ad. sk.	Labuan.	Tweeddale Coll.
h. ♀ ad. sk.	Tegora, N.E. Borneo (*H. Everett*).	Tweeddale Coll.
i. ♀ ad. sk.	Elopura.	Rev. H. Frere [P.].
k. ♀ ad. sk.	Banjarmassing (*J. Motley*).	Tweeddale Coll.

* The Collection contains an example, from the Leiden Museum, said to have been obtained in Sumatra. I have examined the Sumatran *Micropterni* in the above Museum, and they are all *M. brachyurus*. I think there has been some mistake in labelling the above-mentioned specimen.

4. Micropternus fokiensis.

Brachypternus badius (*non Raffl.*), *Swinh. Ibis*, 1861, p. 267.
Brachypternus fokiensis, *Swinh. P. Z. S.* 1863, p. 87; *id. Ibis*, 1868, p. 63.
Micropternus fokiensis, *Swinh. P. Z. S.* 1863, p. 267; *id. op. cit.* 1871, p. 393; *David & Oust. Ois. Chine*, p. 54 (1877); *Hargitt, Ibis*, 1885, p. 12; *Styan, op. cit.* 1887, p. 229.
Picus fokiensis, *Sundev. Consp. Av. Picin.* p. 91 (1866); *Giebel, Thes. Orn.* iii. p. 154 (1876).
Meiglyptes fokiensis, *Gray, List Picid. Brit. Mus.* p. 126 (1868); *id. Hand-l. B.* ii. p. 203, no. 8847 (1870).
Micropternus brachyurus (pt.), *Hume, Str. F.* 1877, p. 481.

Adult male. Upper back uniform dark brown; middle and lower back, rump, scapulars, and wing-coverts blackish brown, narrowly barred with rufous; bastard-wing and primary-coverts blackish brown, barred with rufous; quills barred brownish black and rufous on both webs; shafts reddish orange on the rufous portion of the web, and blackish where the feather is crossed by a black bar; the shafts of the inner quills blackish brown; upper tail-coverts barred black and rufous; tail rufous, crossed by five bars of black, these bars being rather narrower than the rufous interspaces; shafts reddish or purplish brown; lores, forehead, crown and occiput, sides of the face, and upper neck brownish buff, the feathers having dark-brown central stripes; below the eye a patch of crimson; hind neck and lower side of the neck more rufous than the head, the feathers having similar central stripes; chin and throat buff, each feather centred with a very dark brown stripe; fore neck and chest rufous; entire under surface of the body dark brown, the flanks and thighs barred with rufous; under tail-coverts dull rufous, with either an intermarginal blackish line or transverse and other varied blackish markings; under wing-coverts rufous varied with black. Total length 9 inches, culmen 1·12, wing 5·1, tail 2·8, tarsus 0·9; toes (without claws)—outer anterior 0·7, outer posterior 0·7, inner anterior 0·55, inner posterior 0·23.

Swinhoe's type of the male is apparently a bird not fully adult, and the soft parts are given as follows:—"bill bluish grey, with more or less greenish yellow on the lower mandible; iris reddish brown; legs and claws greenish slaty" (*Swinhoe*).

Adult female. Differs from the adult male in wanting the red patch under the eye. Total length 9 inches, culmen 1·15, wing 4·95, tail 2·95, tarsus 0·85.

Nestling. In general coloration and marking almost identical with the adult, but differing in having the upper back barred black and dull rufous, the striations on the throat of a less dark brown, and the under wing-coverts almost uniform pale rufous.

Hab. Eastern China (Fokien), and possibly south into the northern part of Cochin China *.

* A specimen of *M. fokiensis*, said to be from Cochin China (*Verreaux*), is in the Leiden Museum. It is probably confined to the north.

a, b. ♂ ad.; *c, d.* ♀ ad. et juv. sk.	Fokien, China.	Gould Coll.
e. ♂ ad. sk.	Fungan, China.	Tweeddale Coll.

5. Micropternus holroydi.

Mieropternus holroydi, *Swinhoe, Ibis*, 1870, p. 95; *id. P. Z. S.* 1871, p. 393; *David & Oust. Ois. Chine*, p. 54 (1877); *Hargitt, Ibis*, 1885, p. 15.
Picus holroydi, *Giebel, Thes. Orn.* iii. p. 159 (1876).

Adult male. General colour brown or rufous brown, the upper parts dark brown with narrow and almost obsolete lighter rufous barring; wings and their coverts barred with black, the shafts reddish to dark brown; tail and the coverts barred with black, the bars on the former not exceeding six, and slightly narrower than the rufous interspaces; shafts reddish brown; the feathers of the head and neck dark brown with paler margins, those under and behind the eye tipped with crimson; the centres of the throat-feathers unicolorous with the underparts; the underparts almost entirely uniform rufous brown, the thighs and the under tail-coverts barred rufous and black: under wing-coverts with bar-like spots of black, the axillaries striped with black: "irides ochreous white; bill deep bluish grey, with the greater part of the lower mandible and edge of the upper mandible greenish yellow; legs and claws slate-colour tinged with green" (*Swinhoe*). Total length 7·5 inches, culmen 1, wing 4·5, tail 2·4, tarsus 0·85; toes (without claws)—outer anterior 0·65, outer posterior 0·62, inner anterior 0·47, inner posterior 0·2.

Adult female. Differs from the male in wanting the crimson spot under the eye. Total length 7·5 inches, culmen 1·05, wing 4·75, tail 2·45, tarsus 0·87.

Hab. Island of Hainan.

a. ♂ ad. sk.	Hainan, Feb. 1868.	Consul Swinhoe [C.].
b. ♂ ad. sk.	Hainan, Feb. 1868 (*R. Swinhoe*).	Tweeddale Coll.

30. BRACHYPTERNUS.

	Type.
Brachypternus, *Strickl. Ann. & Mag. Nat. Hist.* 1841, p. 35	B. aurantius.
Brachypternopicus, *Malh. Rev. Zool.* 1845, p. 404	B. puncticollis.
Brahmapicus, *Malh. Mém. Acad. Metz*, 1848–49, p. 334	B. aurantius.

Range. Throughout India and Ceylon.

Key to the Species.

A. Above golden yellow or orange, sometimes tinged with red.
a'. Chin, throat, fore neck, and malar region black, striped with white.
a''. Top of the head and crest red..... *aurantius* ♂ ad., p. 405.

b''. Crest (only) red.
a'''. Forehead and crown with rather elongated triangular spots of white. *aurantius* ♀ ad., p. 406.
b'''. Forehead and crown uniform black ..... *aurantius* ♀ juv., p. 406.
b'. Chin, throat, fore neck, and malar region black spotted with white, the feathers of the chin and throat having a basal bar of white.
c''. Top of the head and crest red ..... *puncticollis* ♂ ad., p. 408.
d''. Crest (only) red; forehead and crown black, with rounded spots of white..... *puncticollis* ♀ ad., p. 408.
B. Above entirely bright red.
c'. Crown and crest red ..... *erythronotus* ♂ ad., p. 410.
d'. Crest (only) red; forehead and crown black, spotted with white ..... *erythronotus* ♀ ad., p. 411.

1. Brachypternus aurantius.

Le Pic du Cap de Bonne Espérance, *Briss. Orn.* iv. p. 8, pl. vi. fig. 1, ♂ (1760).

Le Pic verd de Bengal, *Briss. Orn.* iv. p. 14, ♀ (1760); *Daubent. Pl. Enl.* 695, ♀.

Picus aurantius, *Linn. Syst. Nat.* i. p. 174, ♂ (1766); *Gm. Syst. Nat.* i. p. 430 (1788); *Lath. Ind. Orn.* i. p. 237 (1790); *Steph. Gen. Zool.* ix. p. 195, ♂ (1815); *Bonn. & Vieill. Enc. Méth.* iii. p. 1305, ♂ (1823).

Picus bengalensis, *Linn. Syst. Nat.* i. p. 175, ♀ (1766); *Gm. Syst. Nat.* i. p. 433, ♀ (1788); *Lath. Ind. Orn.* i. p. 235 (1790); *Steph. Gen. Zool.* ix. p. 185, pl. xxxv. ♀ (1815); *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 97 (1818); *id. & Bonn. Enc. Méth.* iii. p. 1320, ♀ (1823); *Valenc. Dict. Sc. Nat.* xl. p. 174, ♂ (1826); *Cuv. Règne Anim.* 1829, i. p. 450; *Sundev. Süllsk. Physiogr. Tidskrift*, p. 162 (1837); *id. Ann. & Mag. Nat. Hist.* 1846, p. 309; *id. Consp. Av. Picin.* p. 81 (1866).

The Orange Woodpecker, *Lath. Gen. Syn.* ii. p. 585, no. 32 (1782).

Picus psarodes, *Licht. Cat. Rer. Nat. Hamb.* p. 18, nos. 189, 190, ♂ ♀ (1793).

Picus nuchalis, *Wagl. Syst. Av.* Picus, sp. 94, ♂ ♀ (1827).

Picus chrysonotus, *Less. Traité*, i. p. 220, ♀ (1831); *Bp. Consp. Gen. Av.* i. p. 121 (1850).

Brachylophus hemipodius, *Swains. Classif. B.* ii. p. 308, note (1837).

Malacolophus melanochrysos, *Hodgs. J. A. S. B.* 1837, p. 109.

Brachylophus bengalensis, *Jerd. Madr. Journ.* 1840, p. 214.

Brachypternus aurantius, *Strickl. P. Z. S.* 1841, p. 31; *Blyth, J. A. S. B.* 1845, p. 194; *Gray, Gen. B.* ii. p. 441 (1846); *id. Cat. Mamm. &c. Nepal. pres. Hodgs.* 1846, p. 117; *Blyth, Cat. B. Mus. As. Soc.* p. 56 (1849); *Reichenb. Scans. Picinæ*, p. 397, no. 922, pl. dcliii. fig. 4348, ♀ (1854); *Bp. Consp. Volucr. Zygod.* p. 10, no. 178 (1854); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 654 (1856–58); *Philipps, P. Z. S.* 1857, p. 100; *Leith-Adams, op. cit.* 1858, p. 475, 1859, p. 174; *Irby, Ibis*, 1861, p. 229; *Jerd. B. Ind.* i. p. 295 (1862); *Gray, Cat. Mamm. &c. Nepal pres. Hodgs.* 1863, p. 64, no. 486; *Cab. & Heine, Mus. Hein.* iv. p. 169 (1863);

Beavan, Ibis, 1865, p. 411; *Gray, List Picid. Brit. Mus.* p. 95 (1868); *Beavan, Ibis*, 1869, p. 415; *Gray, Hand-l. B.* ii. p. 196, no. 8744 (1870); *Godw.-Aust. J. A. S. B.* 1870, p. 267; *Holdsw. P. Z. S.* 1872, p. 428; *Lloyd, Ibis*, 1873, p. 407; *Hume, Str. F.* 1873, p. 92; *Adam, t. c.* p. 373; *Ball, op. cit.* 1874, p. 392; *Butl. op. cit.* 1875, p. 458, 1876, p. 34; *Ball, op. cit.* vii. p. 206 (1878); *Cripps, t. c.* p. 263; *Hume, op. cit.* 1879, p. 88, no. 180: *Butl. Cat. B. Sind &c.*, nos. 180, 182 (1879); *Reid, Str. F.* x. p. 25 (1881); *J. Davidson, t. c.* 1882, p. 298; *W. Davison, Str. F.* 1883, x. p. 356; *Swinh. & Barnes, Ibis*, 1885, p. 62.

Brachypternus igniceps, *Hodgs. in Gray's Zool. Misc.* p. 85, no. 172 (1844).

Brachypternus dilutus*, *Blyth, J. A. S. B.* 1845, p. 550; *Jerd. B. Ind.* i. p. 297; *Cab. & Heine, Mus. Hein.* iv. p. 170 (1863); *Blyth, Ibis*, 1866, p. 356; *Gray, List Picid. Brit. Mus.* p. 95 (1868); *id. Hand-l. B.* ii. p. 196, no. 8749 (1870); *Jerd. Ibis*, 1872, p. 10; *Hume, t. c.* p. 468; *Elwes, P. Z. S.* 1873, p. 675; *Murray, Str. F.* vii. p. 111 (1878); *Hume, op. cit.* 1879, p. 88, no. 182; *Scrope Doig, t. c.* p. 370.

Brahmapicus aurantius, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 345.

Brachypternus aurantius, var. dilutus, *Blyth, Cat. B. Mus. As. Soc.* p. 56 (1849).

Brachypternus chrysonotus, *Bp. Consp. Volucr. Zygod.* p. 10, no. 179 (1854).

Brahmapicus bengalensis, *Malh. Picidæ*, ii. p. 93, pl. lxix. figs. 5 ♂, 6 ♀ (1862).

Adult male. Middle back and scapulars deep golden yellow, the extreme upper back and hind neck, lower back, rump, and upper tail-coverts brownish black; lesser and median wing-coverts black, the latter washed with golden olive, the greater series golden olive, the whole (except along the forearm) being spotted with buffy white or golden white; quills brownish black, the outer webs of the secondaries uniform olive-golden, the primaries spotted with white upon both webs, the secondaries (except the innermost) having the inner webs spotted with white; shafts blackish brown; tail-feathers and the shafts black; upper half of loral region and the supercilium black, striped with white; forehead and crown crimson, the feathers having black bases, the occipital feathers crimson, with a white shaft-stripe; sides of the face and neck creamy white, behind the eye, and the auricular region striped with black; the malar region, chin, throat, and fore neck black broadly striped with white; the whole of the under surface of the body buffy white, the feathers margined with black, very broadly so on the chest; the upper series of under tail-coverts buffy white margined with black, the lower series black with large and irregular spots of white; under wing-coverts and axillaries buffy white, the former margined with black, the latter barred with the same. Total length 11 inches, culmen 1·65, wing 5·6, tail 3·45, tarsus 1·03;

* Founded on the Scindean bird, which is generally somewhat whiter, but not specifically distinct.

toes (without claws)—outer anterior 0·8, outer posterior 0·76, inner anterior 0·6, inner posterior 0·28.

Adult female. Differs from the adult male in having the forehead and crown black, with small and rather elongated triangular spots of white, the hinder feathers of the crown having a median stripe. Total length 11 inches, culmen 1·58, wing 5·73, tail 3·63, tarsus 0·96.

Male, fledging. Resembles the adult of the same sex in having the crown and crest red, but differs in the chin, throat, and fore neck being covered with drop-like spots of dull white on a dusky black ground.

Female, fledging. Differs from the male of the same age in having the forehead and crown brownish black, the crest alone being red. The uniform feathers of the forehead and crown are replaced by others of a deep black with an apical triangular spot of white, when the moult takes place.

Hab. Northern and North-western Provinces of India, westward extending from Cashmere into Khandeish, eastward through Bengal and into Cachar.

a, b. ♂ ad. sk.	Dera Ghazi Khan, March 1872.	Hume Coll.
c. ♂ ad. sk.	Meeanee, Sindh, Jan. 1855 (*Dr. H. Gould*).	Gould Coll.
d. ♀ ad.; *e.* ♂ imm. sk.	Shikarpur, Sindh (*Griffith*).	India Museum.
f. ♂ ad. sk.	Shikarpur, Jan. 3, 1872 (*A. O. H.*).	Hume Coll.
g, h. ♂ ad.; *i, k, l.* ♀ ad. sk.	Sukhur, Dec. 1871 (*A. O. H.*).	Hume Coll.
m. ♂ ad. sk.	Jhelum, Nov. 21, 1871 (*A. O. H.*).	Hume Coll.
n, o. ♂ ad.; *p.* ♀ ad. sk.	Larkhana, Jan. 1872 (*A. O. H.*).	Hume Coll.
q. ♂ ad. sk.	Jacobabad, Dec. 22, 1871 (*A. O. H.*).	Hume Coll.
r, s. ♂ ♀ ad. sk.	Hyderabad, Jan. 1878 (*E. A. Butler*).	Hume Coll.
t. ♂ ad. sk.	N. Guzerat, Dec. 1877 (*H. E. M. James*).	Hume Coll.
u, v. ♂ juv. sk.	Mount Aboo, May 22, 1868.	Hume Coll.
w, x. ♂ ♀ ad. sk.	Meerut.	Tweeddale Coll.
y. ♀ ad. sk.	Delhi.	Hume Coll.
z, a'. ♂ ad. sk.	Saharunpur, April.	Hume Coll.
b', c'. ♂ ♀ ad. sk.	Umbala, Feb., Oct.	Tweeddale Coll.
d'. ♂ ad. sk.	Umbala, Feb. 25, 1874.	Hume Coll.
e', f'. ♂ ♀ ad. sk.	Umbala, Feb., March 27, 1874.	Hume Coll.
g'. ♀ ad. sk.	Gurhwal Bhabur, Jan. 3, 1870.	Hume Coll.
h'. ♂ ad.; *i', k'.* ♀ ad. sk.	Dehra Dhoon.	Hume Coll.
l'. ♀ ad. sk.	Siwalik Hills, March 1867 (*Dr. Scott*).	Tweeddale Coll.
m'. ♂ ad. sk.	Kumaon (*Strachey*).	India Museum.

n'–s'. ♂ ad. et juv.; *t'–w'*. ♀ ad. et juv. sk.	Etawah, Jan., March.	Hume Coll.
x'. ♂ ad. sk.	Jhansei, May 9, 1868.	Hume Coll.
y', *z'*. ♂ ad.; *a''*, *b''*. ♀ ad. sk.	Allahabad, Dec. 13, 1879.	Hume Coll.
c''. ♀ ad.; *d''*, *e''*. ♂ ♀ juv. sk.	Oudh.	Pinwill Coll.
f''. ♂ ad. sk.	Gondah, Oudh (*Stackhouse Pinwill*).	Tweeddale Coll.
g''. ♀ ad.; *h''*. ♂ imm. sk.	Lucknow, May 1879.	Colonel Way [P.].
i''. ♀ ad. sk.	Lucknow, Dec. 21, 1879 (*G. Reid*).	Hume Coll.
k'', *l''*. ♂ ad.; *m''*. ♀ ad. sk.	Behar.	Hodgson Coll.
n''. ♂ ad.; *o''*. ♀ imm. sk.	Nepal.	Hodgson Coll. (Types of *B. igniceps*.)
p'', *q''*. ♂ ad.; *r''*. ♀ ad. sk.	Sikhim, Sept., Nov. (*L. Mandelli*).	Hume Coll.
s'', *t''*. ♂ ♀ ad. sk.	Darjeeling.	Tweeddale Coll.
u''. ♂ ad. sk.	Bhotan (*Pemberton*).	India Museum.
v''. ♀ ad. sk.	Cachar, March 1871.	Hume Coll.
w''. ♀ juv. sk.	Bengal (*Falconer*).	India Museum.
x''. ♀ ad. sk.	Dacca.	Hume Coll.
y''. ♀ ad. sk.	Manbhoom, Jan. 1865 (*R. C. Beavan*).	Tweeddale Coll.
z'', *a*^{3}. ♂ ♀ ad. sk.	Calcutta, Feb.	Tweeddale Coll.
b^3, *c*^{3}. ♂ ♀ ad. sk.	Calcutta, Feb., May.	Hume Coll.
d^3, *e*^{3}. ♂ ad.; *f*^{3}, *g*^{3}. ♀ ad. et juv. sk.	Raipur, Jan., March.	Hume Coll.
h^3. ♂ ad. sk.	Jubbulpur Dist.	Tweeddale Coll.
i^3, *k*^{3}. ♂ ♀ ad. sk.	Seoni.	Hume Coll.
l^3. ♂ ad. sk.	Kamptee.	Dr. H. B. Hiude [P.].
m^3, *n*^{3}. ♂ ♀ ad. sk.	Depalpur, Jan. 1882.	Col. Swinhoe [P.].
o^3. ♂ ad. sk.	Khandeish.	India Museum.
p^3. ♂ juv.; *q*^{3}, *r*^{3}. ♀ ad. et juv. sk.	Khandeish, Dec., March (*J. Davidson*).	Hume Coll.
s^3, *t*^{3}. ♂ ad.; *u*^{3}. ♀ imm. sk.	Khandeish.	Tweeddale Coll.

2. Brachypternus puncticollis.

Brachypternopicus puncticollis, *Malh. Rev. Zool.* 1845, p. 405.

Brachypternus micropus, *Blyth, J. A. S. B.* 1845, p. 194; *Jerd. Madr. Journ.* 1845, p. 139; *Cab. & Heine, Mus. Hein.* iv. p. 170 (1863).

Brachypternopicus chrysonotus (*non Less.*), *Malh. Rev. Zool.* 1845, p. 404.

Brachypternus aurantius (*non Linn.*), *Kelaart, Prodr. Cat.* p. 128 (1852); *Layard, Ann. & Mag. Nat. Hist.* 1854, p. 448; *Taylor, Str. F.* x. p. 458 (1887).

Brachypternus chrysonotus, *Reichenb. Scans. Picinæ*, p. 398, no. 924, pl. dcliii. fig. 4350, ♂ (1854); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 656 (1856-58); *Jerd. B. Ind.* i. p. 296 (1862); *Gray,*

List Picid. Brit. Mus. p. 95 (1868); *id. Hand-l. B.* ii. p. 196, no. 8745 (1870); *Fairb. Str. F.* 1876, pp. 255, 265.

Brahmapicus puncticolli, *Malh. Picidæ*, ii. p. 92, pl. lxx. figs. 1 ♂, 2 ♀ (1862).

Picus chrysonotus, *Sunder. Consp. Av. Picin.* p. 81 (1866).

Picus puncticollis, *Sunder. Consp. Av. Picin.* p. 82 (1866).

Brachypternus puncticollis, *Gray, List Picid. Brit. Mus.* p. 95 (1868); *id. Hand-l. B.* ii. p. 196, no. 8746 (1870); *Holdsw. P. Z. S.* 1872, p. 428; *Hume, Str. F.* 1876, p. 457; *Fairb. op. cit.* 1877, p. 396; *Hume, op. cit.* 1879, p. 88, no. 181; *Legge, B. Ceylon*, p. 205, ♂ ♂ figd. (1880); *Vidal, Str. F.* 1880, p. 53; *Butl. t. c.* p. 386; *id. Cat. B. S. Bomb. Presid.* no. 181 (1880); *W. Davison, Str. F.* x. p. 356 (1883).

Brachypternus intermedius *, *Legge, Str. F.* 1876, p. 242; *White, op. cit.* 1877, p. 201; *Parker, op. cit.* 1880, p. 479; *id. Ibis*, 1886, p. 184.

Adult male. Resembles *B. aurantius*, but may be distinguished by having the malar region, chin, throat, fore neck, and chest spotted, instead of striped, the feathers of the chin and throat having, in addition to the apical triangular white spot, a basal white bar, the two not being connected by a white shaft-stripe; the auricular stripe which runs on to the nape is blacker and more marked, and the feathers of the rump are margined at the tip with dull olive-golden: "iris red; bill blackish, or very dark plumbeous, edges of upper mandible paler; legs and feet dull sap-greenish, claws blackish leaden" (*W. V. Legge*). Total length 11 inches, culmen 1·62, wing 5·8, tail 3·35, tarsus 1; toes (without claws)—outer anterior 0·8, outer posterior 0·72, inner anterior 0·6, inner posterior 0·18.

Adult female. Differs from the adult male in having the feathers of the forehead and crown black, with an apical rounded spot of white. Total length 11 inches, culmen 1·62, wing 5·82, tail 3·45, tarsus 1·02.

Young male. Differs from the adult male in having the forehead and crown black, the base of the forehead with a few specks of brownish white, the occipital crest (only) scarlet; the chin and throat want the transverse white markings, and, together with the fore neck, have more or less rounded spots of dull white; the feathers of the underparts entirely margined with dusky black. The feathers of the forehead and crown next assume their red tips.

Young female. Resembles the young male, but has the forehead and crown rather browner, and the forehead more distinctly spotted with white. In the next stage, the sinciput becomes deep black and the feathers have a white apical spot.

Hab. Southern portion of India, in the west extending up to Khandeish. Northern part of Ceylon, south to Trincomalie, and west into Ramisserum Island.

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* The reddish-backed Ceylonese forest form, but which, in my opinion, cannot be separated either from the yellow-backed Ceylonese bird or from *B. puncticollis* of Southern India. It seems to be the connecting-link between *B. erythronotus* and the species from Southern India.

a. ♂ ad. sk.	W. Khandeish, May 1877 (*H. E. M. James*).	Hume Coll.
b. ♂ juv.; *c*, *d*. ♀ ad. sk.	Khandala, Jan., April (*S. B. Fairbank*).	Tweeddale Coll.
e, *f*. ♂ ♀ ad. sk.	Kelsi, S. Konkan, March 7, 1878 (*G. Vidal*).	Hume Coll.
g, *h*. ♂ ♀ ad. sk.	Guhagra, S. Konkan, March 4, 1879 (*G. Vidal*).	Hume Coll.
i. ♂ ad. sk.	Ratnagiri, S. Konkan, Dec. 5, 1878 (*G. Vidal*).	Hume Coll.
k. ♂ ad. sk.	Chiplun, S. Konkan, Dec. 14, 1878 (*G. Vidal*).	Hume Coll.
l. ♂ juv. sk.	Madras (*R. G. W. R.*).	Tweeddale Coll.
m. ♀ ad.; *n*. ♀ imm. st.	Madras.	Rev. H. H. Baber [P.].
o. ♂ juv. sk.	N. Canara, April 15, 1876.	Hume Coll.
p. ♀ ad. sk.	Belgaum (*E. A. Butler*).	Hume Coll.
q. ♀ ad. sk.	Segore, Feb. 20, 1881 (*W. Davison*).	Hume Coll.
r. ♀ ad. sk.	Mysore, May (*W. Davison*).	Hume Coll.
s. ♂ ad.; *t*. ♂ juv. sk.	Mysore, Aug. 1878 (*R. G. W. R.*).	Tweeddale Coll.
u. ♂ imm. sk.	Manantoddy, Wynaad, April 6, 1881 (*W. Davison*).	Hume Coll.
v. ♂ ad.; *w*, *x*. ♀ ad. sk.	Wynaad, Dec., May (*W. Davison*).	Hume Coll.
y, *z*. ♂ ♀ ad. sk.	Burliar, Nilghiris, Sept. 1867.	Hume Coll.
a'. ♀ ad. sk.	Kullar, Sept. 15, 1876 (*R. G. W. R.*).	Tweeddale Coll.
b'. ♂ ad.; *c'*, *d'*. ♀ ad. sk.	Coonoor Ghat, April, Sept. (*R. G. W. R.*).	Tweeddale Coll.
e'–*h'*. ♂ ad.; *i'*. ♀ ad. sk.	Calicut (*Haines*).	Tweeddale Coll.
k', *l'*. ♂ ♀ ad. sk.	Calicut.	Hume Coll.
m', *n'*, *o'*. ♂ ad.; *p'*, *q'*. ♀ ad. sk.	Malabar.	Tweeddale Coll.
r', *s'*. ♂ ad.; *t'*, *u'*. ♀ ad. sk.	Anjango, Travancore, Dec. 1872.	Hume Coll.
v', *w'*. ♂ ♀ ad. sk.	S. India.	India Museum. (Types of the species.)
x'. ♂ ad. sk.	S. India.	Gould Coll.
y'. ♀ ad. sk.	Paumben, Ramisserum Isl., March 17, 1875 (*A. O. H.*).	Hume Coll.
z'. ♂ imm.; *a''*. ♀ ad. sk.	Ceylon.	Col. W. V. Legge [P.].
b''. ♂ ad. sk.	Ceylon.	Hume Coll.
c''. ♂ juv. sk.	Ceylon (*H. Nevill*).	Tweeddale Coll.
d'', *e''*. ♂ ♀ ad. sk.	Jaffna, Ceylon (*F. W. Gordon*).	Tweeddale Coll.

3. Brachypternus erythronotus.

Bengal Woodpecker, var. A, *Lath. Gen. Syn.* ii. p. 580 (1782).

Picus bengalensis, var. *β*, *Gm. Syst. Nat.* i. p. 433 (1788); *Lath. Ind. Orn.* i. p. 235 (1790).

Picus erythronothos, *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 73 (1818); *id. & Bonn. Enc. Méth.* iii. p. 1307 (1823).

Picus neglectus, *Wagl. Syst. Av.* Picus, sp. 99 (1827).
Picus erythronotos, *Drap. Dict. Class.* xiii. p. 498 (1828).
Picus ceylonus, *Cuv. Règne Anim.* 1829, i. p. 451.
Picus sonneratii, *Less. Traité*, i. p. 221 (1831).
Brachypternus erythronotus, *Strickl. P. Z. S.* 1841, p. 31; *Gray, Gen. B.* ii. p. 441 (1846); *Bp. Consp. Gen. Av.* i. p. 121 (1850); *id. Consp. Volucr. Zygod.* p. 10, no. 180 (1854); *Reichenb. Scans. Picinæ*, p. 398, no. 923, pl. dcliii. fig. 4349, ♀ (1854); *Gray, List Picid. Brit. Mus.* p. 96 (1868); *id. Hand-l. B.* ii. p. 196, no. 8747 (1870).
Brahmapicus erythronotus, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 345; *id. Picidæ*, ii. p. 90, pl. lxix. figs. 1 ♂ ad., 2 ♂ juv., 3 ♀ ad. (1862).
Brachypternus ceylonus, *Blyth, Cat. B. Mus. As. Soc.* p. 56, no. 251 (1849); *Layard, Ann. & Mag. Nat. Hist.* 1854, p. 449; *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 656 (1856–58); *Cab. & Heine, Mus. Hein.* iv. p. 171 (1863); *Blyth, Ibis*, 1867, p. 297; *Holdsw. P. Z. S.* 1872, pp. 405, 428; *Layard, op. cit.* 1873, p. 204; *Legge, Ibis*, 1874, p. 15, 1875, p. 284; *id. Str. F.* 1875, p. 202; *Hume, op. cit.* vii. p. 369 (1878), 1879, p. 88, no. 182 bis; *Legge, B. Ceylon*, p. 202, ♂ & ♀ figd. (1880); *Parker, Ibis*, 1886, p. 183.
Picus erythronotus, *Sundev. Consp. Av. Picin.* p. 82 (1866).

Adult male. Back and scapulars crimson, the extreme upper part of the back and the hind neck black; rump and upper tail-coverts brownish black, the rump-feathers tipped with dull crimson; lesser and median wing-coverts brownish black, tipped with dull crimson and spotted with pinkish buffy white, the greater series almost entirely crimson; quills brownish black, the outer webs of the secondaries dull red, those of the primaries spotted with white at the base, the inner webs of the quills, except the innermost of all, spotted with white; shafts black; tail-feathers and the shafts black; the feathers of the forehead and crown and the elongated occipital feathers crimson, with black bases; sides of the face and neck black, with two buffy-white stripes, one from above the posterior half of the eye and running down the side of the hind neck, the other from the base of the upper mandible and passing under and to the end of the ear-coverts; the supercilium, loral and malar regions spotted with white, the postorbital region being striped with the same; the ear-coverts striped with dull white; chin, throat, and fore neck black, the feathers of the chin and throat having an apical spot and the base white, those of the fore neck having a central white spot; entire under surface of the body and under tail-coverts buffy or rufescent white, the feathers of the chest and breast broadly margined with black, which sometimes coalesces in the middle of the feather and forms a bar; the feathers of the abdomen with triangular marginal spots and concealed basal bars of black; flanks, thighs, and under tail-coverts barred with black; under wing-coverts black, spotted with white or buffy white, the axillaries barred black and buffy white: "iris red; upper mandible dark horn-colour, lower mandible light bluish horn-colour; legs and feet dull sap-green" (*W. V. Legge*). Total length 11·5 inches, culmen 1·6, wing 5·45, tail 3·7, tarsus 1; toes (without claws)—

outer anterior 0·8, outer posterior 0·77, inner anterior 0·55, inner posterior 0·3.

Young male. Differs from the adult of the same sex in having the forehead and crown black, a few only of the hinder feathers of the crown tipped with dull red, the crest (alone) being scarlet. There is also a greater amount of black upon the chin, throat, fore neck, and chest, and these parts are covered with more rounded spots of white; the feathers of the underparts are entirely margined with black.

Adult female. Has the forehead and crown black, the feathers having buffy-white apical spots, the red on the head being confined to the occipital crest. Total length 11 inches, culmen 1·46, wing 5·3, tail 3·6, tarsus 0·98.

Hab. Ceylon, found throughout almost the entire island.

a, b. ♂ ad.; *c.* ♀ ad. sk.	Ceylon.	Gould Coll.
d–k. ♂ ad. et imm.; *l–p.* ♀ ad. et imm. sk.	Ceylon, Dec., March, April, July.	Tweeddale Coll.
q–w. ♂ ad. et imm.; *x–b'.* ♀ ad. et imm. sk.	Ceylon, July, Sept., Oct., Nov.	Hume Coll.
c'. ♂ juv. sk.	N.W. Province of Ceylon.	Colonel Legge [P.].

31. TIGA.

Type.

Tiga, *Kaup, Thierreich, &c.* Band 2, Th. i. p. 38 (1836) . T. javanensis.
Chrysonotus, *Swains. Classif. B.* ii. p. 309 (1837)..... T. javanensis.
Chloropicoides, *Malh. Mém. Acad. Metz*, 1848–49, p. 345 T. shorii.

Range. India (locally); Burmah, Siam, Cambodia, and Cochin China; through the Malayan Peninsula into the islands of Sumatra, Java, Bali, Borneo, and Palawan.

Key to the Species.

A. Feathers of the fore neck and chest buffy or rufescent white edged with black.
  a'. Chin and throat white, with one row of black spots down the middle; the red tips of the feathers on the top of the head, in the male, separated from the dusky base by black.
    a''. Top of the head and the crest vermilion ..... *javanensis* ♂ ad., p. 413.
    b''. Top of the head and the crest black striped with white ..... *javanensis* ♀ ad., p. 414.
  b'. Chin and throat with two rows of black spots arranged longitudinally, the space between these being buff or pale drab; the red tips of the feathers on the top of the head, in the male, separated from

the pale umber-brown bases by creamy white.

c''. Top of the head and the crest scarlet.. *shorii* ♂ ad., p. 417.

d''. Top of the head and the crest black striped with white ..... *shorii* ♀ ad., p. 417.

B. Feathers of the fore neck and chest uniform olivaceous or ochreous brown; chin and throat buff, more or less closely spotted with black.

c'. Top of the head and the crest vermilion; malar feathers tipped with red ..... *everetti* ♂ ad., p. 418.

d'. Top of the head and occiput black, the former with longitudinal specks of white, the latter having hair-like stripes of the same; the nuchal feathers, only, red; malar region spotted with black and devoid of red ..... *everetti* ♀ ad., p. 418.

e'. Forehead brownish buff; crown and occiput uniform black; the nuchal feathers also black, but occasionally tipped with red..... *everetti* ♀ juv., p. 418.

1. Tiga javanensis.

Picus javanensis, *Ljung*, *Mém. Acad. Roy. Stockh.* 1797, p. 134, pl. vi. ♀ ; *Sundev. Consp. Av. Picin.* p. 83 (1866).

Picus tiga, *Horsf. Trans. Linn. Soc.* xiii. p. 177 (1822); *Raffl. t. c.* p. 290 (1822); *Horsf. Zool. Research. Java* (*Gen. Cat.*) p. 4 (1824); *Wagl. Syst. Av.* Picus, sp. 100 (1827); *Gray, Hardw. Ill. Ind. Zool.* pl. 30. figs. 2 ♂, 2 *a*, head of ♀ (1830-32); *Vig. App. Mem. Raffl.* p. 669 (1831).

Chrysonotus tridactylus, *Swains. Classif. B.* ii. p. 309 (1837); *Jerd. Ibis*, 1872, p. 10.

Chrysonotus tiga, *Eyton, P. Z. S.* 1839, p. 106; *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 657 (1856–58).

Tiga tridactyla, *Blyth, J. A. S. B.* 1845, p. 193; *Strickl. P. Z. S.* 1846, p. 104; *Gray, Gen. B.* ii. p. 441, pl. cix. fig. 7 (1846); *Blyth, Cat. B. Mus. As. Soc.* p. 56 (1849); *Bp. Consp. Gen. Av.* i. p. 120 (1850); *Reichenb. Scans. Picinæ*, p. 396, pl. dclii. figs. 4344–4485, ♂ ♀ (1854); *Gould, P. Z. S.* 1859, pp. 150, 151; *Sclat. op. cit.* 1863, p. 210; *Verd. Over. Nat. Tijds. Nederl. Ind.* xlii. p. 17 (1882).

Picus (Tiga) intermedius, *Blyth, J. A. S. B.* 1845, p. 193.

Picus (Brachypternopicus) rubropygialis, *Malh. Rev. de Zool.* 1845, p. 400.

Chloropicoides tiga, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 347; *id. Picidæ*, ii. p. 97, pl. lxxi. figs. 5 ♂, 6 ♀ (1862).

Tiga intermedia, *Blyth, Cat. B. Mus. As. Soc.* p. 56 (1849); *Reichenb. Scans. Picinæ*, p. 396, no. 918 *b* (1854); *Schomb. Ibis*, 1864, p. 257; *Blyth, op. cit.* 1865, p. 30; *Gray, List Picid. Brit. Mus.* p. 97 (1868); *id. Hand-l. B.* ii. p. 196, no. 8752 (1870); *Armstr. Str. F.* 1876, p. 311; *Salvad. Ann. Mus. Civ. Stor. Nat. Genova*, 1887, p. 580, 1888, p. 567.

Tiga rubropygialis, *Bp. Consp. Gen. Av.* i. p. 120 (1850); *id. Consp. Volucr. Zygod.* p. 10, no. 183 (1854); *Reichenb. Scans. Picinæ*, p. 397, no. 921 (1854); *Gray, List Picid. Brit. Mus.* p. 97

(1868); *id. Hand-l. B.* ii. p. 196, no. 8753 (1870); *Hume, Str. F.* 1879, p. 88, no. 185.

Chrysonotus intermedius, *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 657 (1856–58); *Moore, P. Z. S.* 1859, p. 456; *Jerd. B. Ind.* i. p. 299 (1862); *Cab. & Heine, Mus. Hein.* iv. p. 172 (1863); *Beavan, P. Z. S.* 1866, p. 4; *id. Ibis*, 1869, p. 415; *Hume & Oates, Str. F.* 1875, p. 74.

Chloropicoides intermedia, *Malh. Picidæ*, ii. p. 99 (1862).

Chrysonotus rubropygialis, *Jerd. B. Ind.* i. p. 299 (1862); *Hume, Str. F.* 1876, p. 390.

Chloropicoides rubropygialis, *Malh. Picidæ*, ii. p. 100, pl. lxx. fig. 5, juv. (1862).

Chrysonotus javanensis, *Cab. & Heine, Mus. Hein.* iv. p. 172 (1863); *Müll. Orn. Ins. Salanga*, p. 64 (1882).

Chrysonotus erythropygius, *Cab. & Heine, Mus. Hein.* iv. p. 173 (1863).

Picus javanensis, var. B, *Sundev. Consp. Av. Picin.* p. 83 (1866).

Picus javanensis, var. C, *Sundev. Consp. Av. Picin.* p. 83 (1866).

Tiga javanensis, *Gray, List Picid. Brit. Mus.* p. 97 (1868); *id. Hand-l. B.* ii. p. 196, no. 8751 (1870); *Salvad. Ucc. Born.* p. 54 (1874); *Blyth & Wald. B. Burm.* p. 75 (1875); *Hume & Davison, Str. F.* vi. pp. 146, 501 (1878); *Oates, op. cit.* 1879, p. 165; *Nicholson, Ibis*, 1879, p. 164; *Tiraut, Ois. B.-Cochinchine*, p. 90 (1879); *Salvad. Ann. Mus. Civ. Stor. Nat. Genova*, 1879, p. 183; *Sharpe, Ibis*, 1879, p. 243; *Hume, Str. F.* 1879, pp. 53, 88, no. 184; *Bingh. op. cit.* 1880, p. 164; *Tweedd. Mem. ed. W.-Ramsay*, p. 479 (1881); *Keth. Ibis*, 1881, p. 388; *Sharpe, P. Z. S.* 1881, p. 792; *Oates, Str. F.* x. 1882, p. 192; *Davison, t. c.* p. 357 (1883); *Oates, B. Brit. Burm.* ii. p. 55 (1883); *Vord. Over. Nat. Tijds. Nederl. Ind.* xliv. p. 191 (1884); *Guillem. P. Z. S.* 1885, p. 405; *Salvad. Ann. Mus. Civ. Stor. Nat. Genova.* 1887, p. 518.

Tiga rufa, *Stoliczka, J. A. S. B.* xxxix. p. 289 (1870).

Adult male. Upper and middle back and scapulars deep golden or orange; lower back and rump crimson; upper tail-coverts brownish black; wing-coverts olive-golden with brighter margins; quills black, the outer webs of the secondaries olive-golden, the inner feathers almost entirely of this colour, the tips of the primaries brownish white; inner webs of quills spotted with white; shafts black; tail-feathers and the shafts black; forehead, crown, and occipital crest crimson, the feathers having dusky blackish bases; hind neck black; sides of the face and neck, and from the chin to the under tail-coverts, both inclusive, buffy white or slightly rufescent; a broad black stripe runs from behind the eye to the hind neck, the malar region is encircled by black, and a stripe runs from behind and borders the throat and fore neck, down the middle of which is a row of black stripe-like spots; the chest-feathers very broadly margined with black, those of the breast and abdomen tipped and partially margined with black, the thighs and under tail-coverts barred with the same; under wing-coverts brownish black spotted with buffy white, the axillaries barred buffy white and black. Total length 10 inches, culmen 1·3, wing 5·18, tail 3·35, tarsus 0·9; toes (without claws)—outer anterior 0·72, inner anterior 0·52, posterior 0·65.

Adult female. Differs from the adult male in having the forehead brown at the base, the remainder, as well as the crown and occiput, black; the whole (except the lower feathers of the occipital crest) being striped with white. Total length 10 inches, culmen 1·22, wing 5·1, tail 3·2, tarsus 0·95.

Young. The male in first plumage has the sinciput uniform brown, the remainder of the crown and the crest being scarlet, the sincipital feathers next assume stripe-like spots of white. The female has the top of the head and the crest black striped with white, the stripes having their tips enlarged in the form of a drop. The underparts of the young have a spotted character, and down the throat there is a broad stripe of dusky black with large rounded spots of dull white.

Hab. The islands of Java, Bali, Borneo, and Sumatra, through the Malayan peninsula into Tenasserim; eastward into Siam, Cambodia, and Cochin China; northward through British Burmah into Bengal *. In Southern India it occurs in the Wynaad and Travancore. I have no record of the species being found between the latter countries and Bengal.

a. Juv. st.	Java.	Purchased.
b. ♀ ad. sk.	Java.	Gould Coll.
c, *d*. ♂ ♀ ad. sk.	E. Java.	Wallace Coll.
e. ♂ ad.; *f*, *g*. ♀ ad. sk.	Java (*Mus. Lugd.*).	Salvin-Godman Coll.
h, *i*. ♂ ad.; *k*. ♀ ad. sk.	Java (*Horsfield*).	India Museum.
l. ♀ juv.; *m*. ♂ ad. sk.	Java (*Horsfield*).	India Museum. (Types of *Picus tiga*.)
n. ♀ imm. sk.	W. Java (*E. C. Buxton*).	F. Nicholson, Esq. [P.].
o–t. ♂ ad. et juv.; *u–y*. ♀ ad. et juv. sk.	Java.	Tweeddale Coll.
z. ♂ ad. sk.	Bali.	Wallace Coll.
a', *b'*. ♂ ad.; *c'*. ♀ ad. sk.	Lawas River, Borneo.	H. Veitch, Esq. [P.].
d'. ♂ ad. sk.	Sarawak, Sept. 20, 1877 (*A. Everett*).	Hume Coll.
e'. ♂ ad. sk.	Lumbidan (*H. Low*).	Tweeddale Coll.
f', *g'*. ♂ ♀ ad. sk.	Lumbidan (*H. Low*).	R. B. Sharpe, Esq. [P.].
h', *i'*. ♂ ad.; *k'*, *l'*. ♀ ad. sk.	Sumatra (*Carl Bock*).	Tweeddale Coll.
m'. ♀ juv. sk.	Sumatra.	Wallace Coll.
n', *o'*. ♂ ad. sk.	Lampong, Sumatra (*E. C. Buxton*).	Tweeddale Coll.
p', *q'*, *r'*. ♀ ad. sk.	Malacca (*Dr. Maingay*).	Tweeddale Coll.
s', *t'*. ♂ ad.; *u'*, *v'*, *w'*. ♀ ad. sk.	Penang (*Dr. Cantor*).	India Museum.
x'. ♂ imm. sk.	Wellesley Prov., Nov. 1869 (*F. Stoliczka*).	Hume Coll.

* The type of Malherbe's *B. rubropygialis* was from this Presidency.

y'. ♂ imm.; *z'*. ♀ ad. sk.	Jaram, Salangore, Dec. 21, 1879 (*J. Darling*).	Hume Coll.
a''–e''. ♂ ad.; *f''*, *g''*, *h''*. ♀ ad. sk.	Klang, Salangore, Feb., Mar., April, May, Oct. (*W. Davison*).	Hume Coll.
i''. ♂ ad.; *k''*, *l''*. ♀ ad. sk.	Salang, March 1879 (*J. Darling*).	Hume Coll.
m''. ♀ ad. sk.	Tonka, Jan. 22, 1879 (*J. Darling*).	Hume Coll.
n'', *o''*. ♂ ad.; *p''*. ♀ ad. sk.	Wippitan, Dec. 1878 (*J. Darling*).	Hume Coll.
q''. ♂ ad. sk.	Malewoon, April 12, 1875 (*W. Davison*).	Hume Coll.
r''–u''. ♂ ad.; *v''*, *w''*, *x''*. ♀ ad. sk.	Bankasoon, Dec., Feb., April, May, June (*W. Davison*).	Hume Coll.
y'', *z''*. ♂ ♀ ad. sk.	Pakchan, Jan. 1875 (*W. Davison*).	Hume Coll.
*a*³. ♀ ad. sk.	Usheetherrpone, Nov. 23, 1874 (*W. Davison*).	Hume Coll.
*b*³. ♂ ad. sk.	Tenasserim Town, Nov. 26, 1874 (*W. Davison*).	Hume Coll.
*c*³. ♀ ad. sk.	Mergui, Dec. 7, 1874 (*W. Davison*).	Hume Coll.
*d*¹, *e*³. ♂ ad.; *f*¹. ♀ ad. sk.	Nwalabo, April (*W. Davison*).	Hume Coll.
*g*³. ♂ ad.; *h*³. ♀ imm. sk.	Shymotee, May 1874 (*W. Davison*).	Hume Coll.
*i*³–*m*³. ♂ ad. et imm.; *n*³, *o*³, *p*³. ♀ ad. sk.	Tavoy, April, May, June (*W. Davison*).	Hume Coll.
*q*³. ♀ ad. sk.	Meeta Myo, April 20, 1874 (*W. Davison*).	Hume Coll.
*r*³. ♀ ad. sk.	South of Yea, March 26, 1874 (*W. Davison*).	Hume Coll.
*s*³–*v*³. ♂ ad.; *w*³, *x*³. ♀ ad. sk.	Amherst, Dec., Jan., Feb. (*W. Davison*).	Hume Coll.
*y*³. ♀ ad. sk.	Yeaboo, Dec. (*J. Darling*).	Hume Coll.
*z*³. ♂ ad. sk.	Moulmein, March 21, 1874 (*W. Davison*).	Hume Coll.
*a*¹, *b*¹, *e*¹. ♂ ad. et imm. sk.	Thoungyah, Sept., Oct. Nov. (*J. Darling*).	Hume Coll.
*d*¹. ♂ ad. sk.	Kohbaing, Attaran Dist., March 15, 1874 (*W. Davison*).	Hume Coll.
*e*¹. ♂ ad. sk.	Mophasoo-Choung, Jan. (*C. T. Bingham*).	Hume Coll.
*f*⁴, *g*¹. ♂ ♀ ad. sk.	Pabyouk, March 13, 1874 (*W. Davison*).	Hume Coll.
*h*¹, *i*¹. ♂ ♀ ad. sk.	Thamban, Nov. 29, 1877 (*W. Davison*).	Hume Coll.
*k*⁴, *l*⁴. ♂ ad.; *m*¹. ♀ ad. sk.	Thatone, Dec., Jan. (*W. Davison*).	Hume Coll.
*n*¹–*t*⁴. ♂ ad. et imm.; *u*⁴–*a*⁵. ♀ ad. et imm. sk.	Kaukaryit, Jan., May, June, July, Aug., Sept., Oct.	Hume Coll.

*b*⁵. ♂ ad. sk.	Phaya, Nov. 27, 1877 (*W. Davison*).	Hume Coll.
*c*⁵–*f*⁵. ♂ ad.; *g*⁵–*k*⁵. ♀ ad. sk.	Pahpoon, Dec., Jan., Feb. (*W. Davison*).	Hume Coll.
*l*⁵. ♂ ad. sk.	Kyouk-nyat (*W. Davison*).	Hume Coll.
*m*⁵. ♀ ad. sk.	Borongho Island, Rangoon, March 27, 1876 (*J. Armstrong*).	Hume Coll.
*n*⁵, *o*⁵. ♂ ♀ ad. sk.	Syriam, Jan. 1876 (*J. Armstrong*).	Hume Coll.
*p*⁵, *q*⁵. ♂ ♀ ad. sk.	China Ba-keer, Dec. 1875 (*J. Armstrong*).	Hume Coll.
*r*⁵, *s*⁵. ♂ ♀ ad.; *t*⁵. ♀ imm. sk.	Rangoon, June 1876 (*R. G. W. R.*).	Tweeddale Coll.
*u*⁵. ♂ ad. sk.	Rangoon, July 7, 1873 (*R. G. W. R.*).	Tweeddale Coll.
*v*⁵, *w*⁵. ♂ ♀ ad. sk.	Tonghoo, Oct. 1874 (*E. W. Oates*).	Hume Coll.
*x*⁵–*b*⁶. ♂ ad. et imm.; *c*⁶–*k*⁶. ♀ ad. sk.	Tonghoo, Nov., Dec., Jan., Feb., April (*R. G. W. R.*).	Tweeddale Coll.
*l*⁶. ♂ ad. sk.	Shuay-g-yeen, Burmah, Jan. 2, 1873 (*R. G. W. R.*).	Tweeddale Coll.
*k*⁶. ♀ ad. sk.	San-g-yeen, Dec. 21, 1873 (*R. G. W. R.*).	Tweeddale Coll.
*l*⁶. ♀ ad. sk.	Yay-tho, June 11, 1872 (*R. G. W. R.*).	Tweeddale Coll.
*m*⁶. ♀ ad. sk.	Thayetmyo (*E. W. Oates*).	Hume Coll.
*n*⁶, *o*⁶. ♂ ♀ ad. sk.	Pegu.	W. T. Blanford, Esq. [P.].
*p*⁶. ♀ ad. sk.	Karen-nee, March 19, 1874 (*R. G. W. R.*).	Tweeddale Coll.
*q*⁶. ♂ ad. sk.	Meklong, Siam.	H. C. V. Hunter, Esq. [P.].
*r*⁶. ♀ ad. sk.	Bangkok, April 2, 1872 (*Conrad*).	R. B. Sharpe, Esq. [P.].
*s*⁶, *t*⁶. ♂ ad.; *u*⁶. ♀ juv. sk.	Siam.	Mons. E. Pierre [P.].
*v*⁶. ♂ ad. sk.	Cambodia.	Mons. E. Pierre [P.].
*w*⁶. ♂ ad. sk.	[Burmah ?].	India Museum. (Type of *T. intermedia*.)
*x*⁶. ♀ ad. sk.	Bengal.	Old Coll. (Type of *Brachypternopicus rubropygialis*, Malh.)
*y*⁶. ♀ ad. sk.	Nellacotta, Wynaad, March 29, 1881 (*W. Davison*).	Hume Coll.
*z*⁶. ♂ ad. sk.	Manantoddy, Wynaad, April 23, 1881 (*W. Davison*).	Hume Coll.
*a*⁷. ♂ ad. sk.	Assamboo Hills, Jan. 13, 1872.	Hume Coll.
*b*⁷. ♂ ad.; *c*⁷, *d*⁷, *e*⁷. ♀ ad. sk.	Mynall, Travancore, July, Oct.	F. W. Bourdillon, Esq. [C.].
*f*⁷, *g*⁷. ♂ ad.; *h*⁷, *i*⁷, *k*⁷. ♀ ad. sk.	Mynall, Oct., Nov. (*F. W. Bourdillon*).	Hume Coll.
*l*⁷. Skeleton.	Java.	Purchased.

2. Tiga shorii.

Picus shorii, *Vig. P. Z. S.* 1831, p. 175; *Gould, Cent. B. Himal. Mts.* pl. 49, ♂ (1832); *Sundev. Consp. Av. Picin.* p. 83 (1866).
Brachypternus shorii, *Hodgs. in Gray's Zool. Misc.* 1844, p. 85.
Tiga shorii, *Blyth, J. A. S. B.* 1845, p. 193, 1846, p. 282; *Gray, Gen. B.* ii. p. 441 (1846); *id. Cat. Mamm. &c. Nepal pres. Hodgs.* 1846, p. 117; *Blyth, Cat. B. Mus. As. Soc.* p. 56 (1849); *Bp. Consp. Gen. Av.* i. p. 120, ♂ (1850); *id. Consp. Volucr. Zygod.* p. 10, no. 181 (1854); *Reichenb. Scans. Picinæ*, p. 396, no. 918 pl. dclii. fig. 4345, ♂ (1854); *Gray, Cat. Mamm. &c. Nepal pres. Hodgs.* 1863, p. 63, no. 484; *id. List Picid. Brit. Mus.* p. 98 (1868); *id. Hand-l. B.* ii. p. 196, no. 8754 (1870); *Hume & Oates, Str. F.* 1875, p. 73; *Hume, op. cit.* 1877, p. 497; *Ball, op. cit.* vii. p. 206 (1878); *Hume, op. cit.* 1879, p. 88, no. 183; *W. Davison, op. cit.* x. p. 357 (1883).
Chloropicoides shorii, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 347; *id. Picidæ*, ii. p. 101, pl. lxxi. figs. 1 ♂, 2 ♀ (1862).
Brachypternus striaticeps, *Reichenb. Scans. Picinæ*, p. 398, no. 925 pl. dcliii. fig. 4351, ♀ (1854)
Chrysonotus shorei, *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 658 (1856–58); *Jerd. B. Ind.* i. p. 298 (1862); *Cab. & Heine, Mus. Hein.* iv. p. 172 (1863).
Tiga javanensis (pt.), *Oates, B. Brit. Burm.* ii. p. 55 (1883).

Adult male. Resembles *Tiga javanensis*, but differs in having two rows of black spots down the throat and fore neck, the space between being drab, as is also the malar region; the red on the head more of a scarlet, and the bases of the feathers pale umber-brown, with a whitish spot; the rump more scarlet; the underparts very much less varied with black; the dimensions are also greater. Total length 11·3 inches, culmen 1·5, wing 6, tail 3·8, tarsus 1·02; toes (without claws)—outer anterior 0·85, inner anterior 0·65, posterior 0·72.

Adult female. Differs from the adult male in wanting the red on the top of the head, the forehead being brown; the crown, occiput, and nape black striped with white, the stripes on the forehead short and brownish. Total length 11 inches, culmen 1·42, wing 6·25, tail 3·85, tarsus 1.

Young. The male differs from the adult of the same sex in having no red on the feathers of the forehead, these being dusky umber-brown with a white central stripe; the tips of the feathers of the back and of the scapulars and wing-coverts washed with red; the malar region of the same colour as the forehead, and similarly striped, as well as broadly bordered with black above; the chin, the stripes down each side of the throat, and the two across the face white, without any buff tinge; underparts whiter and the margins of the feathers less black, the thighs being faintly barred; the female has the crown and occiput black striped with white; the forehead browner, with stripe-like spots of dull white.

Hab. Nepal and west to Kaladoongi, Dhoon, east into Sikhim and Bhotan. In Eastern India it has been recorded from Gumsur, and in the south from Nedivuttum, Nilghiris; but I have no record

of its occurrence between these localities. Ranges in the Burmese Territory into Pegu.

a, b. ♂ ♀ ad. sk.	Kaladoongi, Dhoon, Sept. 29, 1866.	Hume Coll.
c. ♂ ad.; *d, e.* ♀ ad. sk.	Nepal.	Hodgson Coll.
f. ♀ juv. sk.	Nepal (*B. H. Hodgson*).	India Museum.
g. ♂ imm. sk.	Sikhim Terai, April 20, 1870 (*L. Mandelli*).	Hume Coll.
h. ♀ ad. sk.	Sikhim, Dec. 1875 (*L. Mandelli*).	Hume Coll.
i–l. ♂ ad.; *m, n.* ♀ ad. sk.	Bhotan Doars, Dec., Jan., Feb. (*L. Mandelli*).	Hume Coll.
o, p. ♂ ♀ ad.; *q, r.* ♂ juv. sk.	Thayetmyo, May.	Hume Coll.
s. ♀ ad. sk.	Burmah (*H. Feilden*).	Tweeddale Coll.
t. ♂ juv. sk.	Arakan Hills, Pegu, June 1873 (*E. W. Oates*).	Hume Coll.

3. Tiga everetti.

Tiga javanensis (*non Ljung*), *Sharpe, Trans. Linn. Soc.* 2nd ser. i. p. 315 (1877); *Tweedd. Mem. ed. W.-Ramsay*, pp. 607, 655, 670 (1881).

Tiga everetti, *Tweedd. P. Z. S.* 1878, p. 612, pl. xxxvii. ♂ ♀; *Sharpe, Ibis*, 1884, p. 317, 1888, p. 197.

Adult male. Resembles *Tiga javanensis* above, but wants the distinct black collar at the base of the hind neck. It, however, differs mainly in having the fore neck and chest olivaceous brown; the chin and throat rufescent buff, spotted with black; the feathers of the malar region tipped with red; the feathers of the upper breast margined at the tip with black, and having a broad black squamate marking in the centre; the remaining underparts transversely spotted and barred with black; under tail-coverts like the under surface of the body, but the lower series are uniform blackish brown, faintly margined with olive; under wing-coverts olivaceous buff, with black bars and some whitish spots, the axillaries yellowish, barred with black: "iris dark brown; bill black, basal half of mandible grey; feet greenish, nails grey" (*Everett*). Total length 10 inches, culmen 1·3, wing 5·4, tail 3·5, tarsus 0·9; toes (without claws)—outer anterior 0·68, inner anterior 0·58, posterior 0·63.

Adult female. Differs from the adult male in having the forehead buffy brown varied with black, the crown and occiput black, the feathers of the forehead and crown with longitudinal specks of white, the occiput having hair-like stripes of the same, the nuchal crest (only) scarlet; malar region spotted with black and devoid of red. Total length 9·5 inches, culmen 1·25, wing 5·2, tail 3·3, tarsus 0·9.

Young female. Differs from the adult female in having the forehead more distinctly brownish buff, the crown and occiput uniform black, the nuchal feathers also black, but a few are tipped with red;

the chin and throat darker and almost without spot; the chest darker and rather more olive.

Hab. Palawan.

a, b. ♂ ♀ ad.; *c.* ♂ imm. sk.	Puerto Princesa, Palawan, Nov. 1877 (*A. Everett*).	Tweeddale Coll. (Types of the species.)
d. ♂ ad. sk.	Puerto Princesa, Palawan.	E. Lemprière, Esq. [C.].

32. NESOCELEUS

Type.

Nesoceleus, *Scl. et Salv. Nomencl. Av. Neotr.*, App. p. 155 (1873)..... N. fernandinæ.

Range. Confined to the island of Cuba.

1. Nesoceleus fernandinæ.

Colaptes fernandinæ, *Vig. Zool. Journ.* iii. p 445 (1828); *Ramon de la Sagra, Hist. Fis. &c. Cuba*, ii. p. 112, pl. xxiv. (1838); *d'Orb. in Sagra's Hist. Nat. Cuba*, p. 148, pl. xxiv. (1839); *Wagn. Arch. für Naturg.* 1841, p. 100; *Denny, P. Z. S.* 1847, p. 39; *Bp. Consp. Gen. Av.* i. p. 114 (1850); *Lembeye, Av. Isl. Cuba*, p. 131 (1850); *Bp. Consp. Volucr. Zygod.* p. 11, no. 234 (1854); *Licht. Nomencl. Av.* p. 77 (1854); *Cab. J. f. O.* 1856, p. 104; *Brewer, Proc. Bost. Soc. Nat. Hist.* 1860, p. 307; *Gray, List Picid. Brit. Mus.* p. 122 (1868); *id. Hand-l. B.* ii. p. 202, no. 8833 (1870); *Gundl. J. f. O.* 1874, p. 155.

Picus fernandinæ, *Wagl. Isis*, 1829, p. 517.

Geopicos fernandinæ, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 359.

Colaptes fernandiæ, *Reichenb. Scans. Picinæ*, p. 415, no. 975, pl. dclxvii. fig. 4427, ♀ (1854).

Geopicus fernandinæ, *Malh. Picidæ*, ii. p. 273, pl. cxiii. figs. 4, 5, ♂ ♀ (1862).

Picus fernandi, *Sundev. Consp. Av. Picin.* p. 78 (1866).

Nesoceleus fernandinæ, *Scl. & Salv. Nomencl. Av. Neotr.* p. 101 (1873); *Cory, List B. W. Ind.* p. 20 (1885); *id. Auk*, 1886, p. 380.

Adult male. Entire back, rump, upper tail-coverts, tail, scapulars, and wing-coverts olive-black, narrowly barred with pale yellow; bastard-wing and primary-coverts brownish black, spotted with yellowish; quills brownish black, with yellow or whitish transverse spots on the outer webs and pure white spots on the inner webs, the innermost feathers barred with whitish right across both webs; shafts yellowish brown, darker at the base; shafts of the tail-feathers clear brown; top of the head, occiput, and nape rufous, narrowly striped with black; lores, face, and upper half of the side of the neck uniform rufous; hind neck and lower side of the neck like the back; malar stripe black; feathers of the chin, throat, and side of the neck immediately behind the malar region with a black central stripe and white margin; entire under surface of the body and under tail-coverts yellow, narrowly barred with black; under wing-coverts and axillaries clear golden buff, with a few dusky

black bar-like spots; underside of quill-shafts and of tail-shafts golden yellow, and the feathers themselves also deeply washed with yellow. Total length 12 inches, culmen 1·65, wing 5·8, tail 4·8, tarsus 1·15; toes (without claws)—outer anterior 0·82, outer posterior 0·73, inner anterior 0·6, inner posterior 0·38.

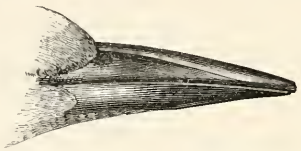
Adult female. Differs from the male in having the malar region striped like the chin and throat. Total length 11·5 inches, culmen 1·55, wing 5·8, tail 4·65, tarsus 1·15.

Hab. Cuba.

a. ♂ ad. sk.	Cuba (*W. S. Macleay*).	Zoological Society. (Type of species.)
b. ♀ ad. sk.	Cuba.	Sclater Coll.
c. ♂ ad. sk.	Cuba.	Salvin-Godman Coll.

33. CELEUS.

	Type.
Celeus, *Boie, Isis*, 1831, p. 542	C. flavescens.
Celeopicos, *Malh. Mém. Acad. Metz*, 1848–49, p. 332	C. flavescens.
Xanthopicus, *Malh. Introd. Monogr. Picid.* p. liii. (1861)	C. flavescens.



Bill of *Celeus flavescens*.

Range. From Southern Mexico, through Central and South America into South Brazil.

Key to the Species.

A. Under surface of the body uniform, or with, at most, only a few almost obsolete paler markings.
  a'. Head and more or less of the neck yellow or buff, contrasting with the rest of the plumage.
    a''. Back barred.
      a'''. Back, wings and their coverts barred black and yellow; underparts deep black.
        a^1. With red malar patch ..... *flavescens* ♂ ad., p. 423.
        b^1. With no red on malar region, this being yellow striped with black.. *flavescens* ♀ ad., p. 423.
      b'''. Back, wings and their coverts brown, barred with dull yellow or with rufous; underparts, fore neck, and part of orbital region brown
        c^1. With red malar stripe ..... *lugubris* ♂ ad., p. 424.
        d^1. With no red on malar region, this being brown..... *lugubris* ♀ ad., p. 424.

b''. Back with longitudinal or heart-shaped spots of black, not barred; underparts blackish brown.
c'''. With red malar stripe ..... *ochraceus* ♂ ad., p. 425.
d'''. With no red on malar region, the feathers having blackish-brown centres and buff margins ..... *ochraceus* ♀ ad., p. 425.
b'. Face and neck of the same rufous colour as the body.
c''. Crown and crest lighter than the face and neck; back, scapulars, and wing-coverts with yellowish spots, more or less transverse.
e'''. Inner webs of quills uniform yellow ..... *immaculatus* ♀, p. 426.
f'''. Inner webs of quills barred and spotted with black.
*e*⁴. Smaller: length 9·3 inches, wing 5·53, tail 3·5. General colour more rufous (not brown); upper parts, wing-coverts, and outer webs of quills not barred.
*a*⁵. With red malar stripe ..... *elegans* ♂ ad., p. 426.
*b*⁵. With no malar stripe..... *elegans* ♀ ad., p. 427.
*f*⁴. Larger: length 11 inches, wing 6·65, tail 4; back and underparts dark, more rufous brown; upper parts, wing-coverts, and more or less of the outer webs of the quills barred with blackish.
*c*⁵. With red malar stripe ..... *reichenbachi* ♂ ad., [p. 427.
*d*⁵. With no malar stripe ..... *reichenbachi* ♀ ad., [p. 427
d''. Crown and crest of the same dark chocolate-brown as the face and neck; back, scapulars, and wing-coverts not spotted with yellow.
g'''. Inner webs of quills barred; the yellow on the sides of the body showing when the wing is closed; upper tail-coverts as well as rump yellow.
*g*⁴. With red malar stripe ..... *jumana* ♂ ad., p. 428.
*h*⁴. With no malar stripe ..... *jumana* ♀ ad., p. 429.
h'''. Inner webs of quills not barred, the yellow on the sides of the body not showing when the wing is closed; upper tail-coverts rufous.
*i*⁴. With red malar stripe ..... *citreopygius* ♂ ad., [p. 429.
*j*⁴. With no malar stripe ..... *citreopygius* ♀ ad., [p. 429.
B. Under surface of the body not uniform.
c'. Tail barred.
e''. Tail rufous at the base and barred with black.
i'''. Head and neck transversely spotted with black, or with crown uniform.
*k*⁴. With red malar stripe ..... *rufus* ♂ ad., p. 430.
*l*⁴. With no red on malar region .... *rufus* ♀ ad., p. 430.

j'''. Head and neck striped with black.
*m*⁴. With red malar stripe ..... *undatus* ♂ ad., p. 431.
*n*⁴. With no red on malar region .... *undatus* ♀ ad., p. 432.
f''. Tail black, barred with pale buff; underparts pale buff, with squamate and crescentic markings of black; head and neck almost uniform rufous.
k'''. Malar region, chin, and upper throat red ..... *loricatus* ♂ ad., p. 432.
l'''. With no red on the malar region, chin, or throat ..... *loricatus* ♀ ad., p. 433.
d'. Tail not barred.
g''. Plumage above and below rich rufous; chest not black.
m'''. Head and crest uniform rufescent buff and much lighter than the back; secondaries uniform, or nearly so; the rump scarcely lighter than the back.
*o*⁴. With red malar stripe ..... *castaneus* ♂ ad., p. 433.
*p*⁴. With no malar stripe ..... *castaneus* ♀ ad., p. 434.
n'''. Head and crest chocolate-brown and darker than the back, the feathers of the crown and crest more or less centred with black; secondaries narrowly barred with black; rump conspicuously lighter than the back.
*q*⁴. With red malar stripe ..... *grammicus* ♂ ad., p. 435.
*r*⁴. With no malar stripe ..... *grammicus* ♀ ad., p. 435.
h''. Plumage above and below fulvescent buff, contrasting with the uniform rufous head and neck; the back, scapulars, wing-coverts, and breast with bars or bar-like spots of black; entire chest and the tail-feathers uniform black..... *spectabilis* ♀ ad., p. 435.

1. Celeus flavescens.

Picus flavescens, *Gm. Syst. Nat.* i. p. 427 (1788); *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 79 (1818); *Neuwied, Reis. Bras.* i. p. 72 (1820); *Bonn. & Vieill. Enc. Méth.* iii. p. 1310 (1823); *Licht. Verz. Doubl.* p. 10 (1823); *Spix, Av. Bras.* i. p. 58, pl. xlix. figs. 1 ♂, 2 ♀ (1824); *Valenc. Dict. Sc. Nat.* xl. p. 175 (1826); *Neuwied, Beitr. Naturg. Bras.* iv. p. 396 (1832); *Sundev. Consp. Av. Picin.* p. 84 (1866).

Carpintero gorro pajizo, *Azara, Apunt. Hist. Nat. Páxar. Paray.* ii. p. 303, no. 251 (1805).

Celeus flavescens, *Boie, Isis*, 1831, p. 542; *Gray, Gen. B.* ii. p. 440 (1846); *Hartl. Ind. Azara*, p. 16, no. 251 (1847); *Bp. Consp. Gen. Av.* i. p. 130 (1850); *id. Consp. Volucr. Zygod.* p. 8, no. 86 (1854); *Reichenb. Scans. Picinæ*, p. 406, no. 952, pl. dclxi. figs. 4380–81, ♂ ♀ (1854); *Burm. Th. Bras.* ii. p. 231 (1856); *Sclat. Cat. Amer. B.* p. 336, no. 2003 (1862); *Gray, List Picid. Brit. Mus.* p. 86 (1868); *id. Hand-l. B.* ii. p. 194, no. 8711 (1870); *Pelz. Orn. Bras.* p. 250 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 101 (1873); *Berl. J. f. O.* 1873, p. 280; *Salv. Cat. Strickl. Coll.* p. 403, no. 1970 (1882).

Malacolophus flavescens, *Swains. Classif. B.* ii. p. 309 (1837).
Celeopicos flavescens, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 334.
Celeopicus flavescens, *Malh. Picid.* ii. p. 21, pl. liii. figs. 1, 2, ♂ ♀ ad., 3, 4, ♂ vars. (1862).

Adult male. Back and scapulars black, narrowly barred with yellow; rump yellow; upper tail-coverts black, some of the upper series partially margined with yellow; wing-coverts black, the lesser series margined with yellow, the median and the greater series margined with yellow at the tip and barred with yellowish white; bastard-wing and primary-coverts black, spotted with yellowish white; quills brownish black or black, the outer webs of the inner primaries sparingly spotted with buffy or yellowish white at the base, the inner webs barred with yellowish white; the secondaries narrowly barred across both webs with yellowish white tinged with buff; shafts blackish brown; tail brownish black, the two outer large feathers spotted with white on the apical portion of the inner web, the dwarf feather spotted on the apical portion of both webs, shafts black; head and crest, posterior half of the neck, chin and throat yellow, tinged with buff, the lores spotted with black; a very large malar patch of crimson; fore neck and under surface of the body, likewise the under tail-coverts, black, the feathers on the upper part of the fore neck margined with yellow, the black appearing as a stripe: some of the feathers of the lower fore neck and of the thighs, and also some of the under tail-coverts, partially and narrowly margined with dull buffy white: the sides of the body barred with yellow; tibial plumes uniform yellow, with a buff tinge; under wing-coverts and axillaries uniform lemon-yellow. Total length 11·5 inches, culmen 1·42, wing 6, tail 3·55, tarsus 1·1; toes (without claws)—outer anterior 1·02, outer posterior 0·98, inner anterior 0·72, inner posterior 0·46.

Adult female. Has the malar region of the same colour as the head, but it is striped with black. In other respects it resembles the adult male. Total length 11·5 inches, culmen 1·25, wing 6·1, tail 3·6, tarsus 1·05.

Hab. Eastern and Southern Brazil, extending north to Bahia.

a. ♂ ad. sk.	Brazil.	Lord Stuart de Rothesay [P.].
b. ♂ ad.; *c.* ♀ imm. sk.	Brazil.	M. Claussen [P.].
d. ♂ ad. sk.	Brazil.	Salvin-Godman Coll.
e. ♀ ad. sk.	Brazil.	Sclater Coll.
f–k. ♂ imm.; *l*, *m.* ♀ imm. sk.	Brazil.	Tweeddale Coll.
n, *o.* ♂ ♀ imm. sk.	Bahia, Brazil (*Dr. Wucherer*).	Salvin-Godman Coll.
p, *q.* ♂ ad. sk.	Saõ Paulo, Brazil (*Joyner*).	Salvin-Godman Coll.
r. ♀ ad. sk.	Novo Fribourgo, Brazil (*J. Youds*).	Salvin-Godman Coll.
s. ♂ ad.; *t.* ♀ imm. sk.	Rio Grande, Brazil.	Tweeddale Coll.

2. Celeus lugubris.

Picus lugubris, *Malh. Mém. Soc. d'Hist. Nat. Metz*, 1851, p. 77; *Sundev. Consp. Av. Picin.* p. 85 (1866).

Celeus lugubris, *Bp. Consp. Volucr. Zygod.* p. 8, no. 87 (1854); *Sclat. Cat. Amer. B.* p. 335, no. 2002 (1862); *Gray, List Picid. Brit. Mus.* p. 87 (1868); *id. Hand-l. B.* ii. p. 194, no. 8717 (1870); *Pelz. Orn. Bras.* p. 250 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 101 (1873).

Celeopicus lugubris, *Malh. Picidæ*, ii. p. 19, pl. liv. figs. 1 ♂, 2 ♀, 3 ♂, 4 ♀ var. (1862).

Adult male. Back, scapulars, and wing-coverts brown, the former with a strong fulvescent tinge, the whole being irregularly barred with yellow; rump and upper tail-coverts yellow, the latter tinged with rufous; outer webs of primaries brownish black, the innermost irregularly spotted with rufous; the inner webs black on their apical portion, the base yellow, rufous near the shaft, barred with black; outer webs, likewise the tips of the inner webs of the secondaries, rufous, the base of the inner webs yellow, the whole being barred with black or brown; shafts of primaries brownish black, those of the secondaries reddish brown; tail (except the dwarf feather, which is uniform rufous) uniform black, and the shafts black; head and crest, hind neck, chin, and throat yellow, more or less ochreous, the malar stripe crimson, the loral region and the feathers immediately below the eye varied with brown; stripe behind the malar region brown, the feathers having yellowish margins; fore neck and the under surface of the body brown, the feathers margined with rufous at the tip; sides of the body, flanks, and thighs yellow, the two latter with bars and heart-shaped spots of brown; short tibial plumes uniform yellow; under tail-coverts rufescent buff, spotted with brown; under wing-coverts and axillaries uniform yellow. Total length 10 inches, culmen 1·07, wing 5·85, tail 3·45, tarsus 1; toes (without claws)—outer anterior 0·95, outer posterior 0·87, inner anterior 0·72, inner posterior 0·42.

Adult female. Resembles the adult male, but differs in the absence of red on the malar region, this being dark brown; the dimensions are much the same.

Immature. Have a greater amount of brown on the orbital region; the lower series of upper tail-coverts and the under tail-coverts rufous, barred with black, and the dwarf tail-feather also barred with black; the short tibial plumes less yellow and considerably varied with brown; the under wing-coverts and axillaries less yellow, the latter barred with dusky brown; the underparts have a few longitudinal spots of buff or rufous; the male has a crimson malar stripe, and in the female this is replaced by brown.

A specimen of a female which I take to be immature (judging by its pale under wing-coverts and brown-spotted tibial plumes) has the lower series of the upper and under tail-coverts, and also the dwarf tail-feather, uniform rich rufous.

Hab. Bolivia, and the southern part of Matto Grosso and Goyaz, Brazil.

a,b. ♂ ♀ imm. sk.	Bolivia.	Sclater Coll.
c. ♀ imm. sk.	Piedra Blanca, Bolivia, April (*H. H. Smith*).	Salvin-Godman Coll.
d. ♂ ad. sk.	Chapada, Matto Grosso, Jan. (*H. H. Smith*).	Salvin-Godman Coll.

3. Celeus ochraceus.

Picus ochraceus, *Spix, Av. Bras.* i. p. 59, pl. li. fig. 1, ♂ (1824); *Cuv. Règne Anim.* i. p. 451 (1829); *Sundev. Consp. Av. Picin.* p. 85 (1866); *Gieb. Thes. Orn.* iii. p. 171 (1876).

Celeus ochraceus, *Boie, Isis*, 1831, p. 542; *Gray, Gen. B.* ii. p. 440 (1846); *Bp. Consp. Gen. Av.* i. p. 130 (1850); *id. Consp. Volucr. Zygod.* p. 8, no. 92 (1854); *Licht. Nomencl. Av.* p. 77 (1854); *Reichenb. Scans. Picinæ*, p. 406, no. 953, pl. delxi. figs. 4382-83, ♂ ♀ (1854); *Gray, List Picid. Brit. Mus.* p. 87 (1868); *id. Hand-l. B.* ii. p. 194, no. 8718 (1870); *Pelz. Orn. Bras.* p. 250 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 101 (1873).

Malacolophus ochraceus, *Swains. Classif. B.* ii. p. 309 (1837).

Celeopicus ochraceus, *Malh. Picidæ*, ii. p. 23, pl. liv. figs. 5, 6, ♂ ♀ (1862).

Adult male. Back and scapulars rufescent buff, with heart-shaped and longitudinal spots of blackish brown; rump uniform yellowish buff; upper tail-coverts blackish brown, transversely spotted and margined at the tip with buff; wing-coverts and secondary quills buff, the former having large heart-shaped spots, or a broad stripe down the outer web and bars on the inner web, or other varied markings of brownish black, the secondaries being completely barred with the same; the primaries blackish brown, with a few rufous spots at the base of the outer webs, the inner webs buff, except at the tip, and barred or transversely spotted with blackish brown; shafts of primaries dark brown, those of the secondaries more orange-yellow; tail blackish brown, the dwarf feather having bar-like spots of buff on the inner web, the shafts black; head and crest, hind neck, chin, and throat buff, with a large crimson malar stripe, and behind this a few blackish-brown stripes; fore neck, under surface of the body, and under tail-coverts blackish brown, the sides of the body, flanks, and thighs pale yellow, barred and spotted with dark brown; short tibial plumes uniform clear buff; under wing-coverts and axillaries uniform pale golden buff. Total length 10·5 inches, culmen 1·03, wing 5·6, tail 3·15, tarsus 1; toes (without claws)—outer anterior 1, outer posterior 0·9, inner anterior 0·65, inner posterior 0·45.

Adult female. Differs from the adult male in the absence of red on the malar region, the feathers having blackish-brown centres and buff margins. Total length 10 inches, culmen 1·1, wing 5·6, tail 3·2, tarsus 0·92.

Hab. The Provinces of Pernambuco and Ceará, North-east Brazil, ranging west to the Tapajoz River.

a. ♀ ad. sk.	Ceará, N. Brazil (*W. Jesse*).	Salvin-Godman Coll.
b. ♂ ad. sk.	Pernambuco, Brazil (*Craven*).	Sclater Coll.

4. Celeus immaculatus.

Celeus immaculatus, *Berl. Ibis*, 1880, p. 113.

Female. "Allied to *C. elegans*, from which it seems only to differ in having the inner webs of the wing-feathers plain yellow, without the black bands or spots to be seen in that species." (*Berlepsch.*)

Hab. Panama?

5. Celeus elegans.

Picus elegans, *Müll. Syst. Nat.*, Anhang, p. 92 (1776).
Pic jaune tacheté de Cayenne, *Daubent. Pl. Enl.* no. 524, ♂.
Picus fusco-fulvus, *Bodd. Tabl. Pl. Enl.* p. 30, no 524 (1783).
Picus cinnamomeus, *Gm. Syst. Nat.* i. p. 428 (1788); *Vieill. Hist. Nat. d'Ois. Amér. Sept.* ii. p. 59 (male only), pl. iii. ♂ (1807); *id. N. Dict. d'Hist. Nat.* xxvi. p. 82 (1818); *id. & Bonn. Enc. Méth.* iii. p. 1312 (1823); *Valenc. Dict. Sc. Nat.* xl. p. 174 (1826); *Less. Traité*, i. p. 223 (1831); *Sundev. Consp. Av. Picin.* p. 85 (1866); *Finsch, P. Z. S.* 1870, p. 587; *Gieb. Thes. Orn.* iii. p. 150 (1876).
Celeus cinnamomeus, *Boie, Isis*, 1831, p. 542; *Gray, Gen. B.* ii. p. 440 (1846); *Cab. in Schomb. Reis. Guian.* iii. p. 715 (1848); *Bp. Consp. Gen. Av.* i. p. 130 (1850); *id. Consp. Volucr. Zygod.* p. 8, no. 91 (1854), pt.; *Reichenb. Scans. Picinæ*, p. 406, no. 950, pl. dclx. figs. 4378–79 (1854); *Sclat. Cat. Amer. B.* p. 336, no. 2007 (1862); *Cav.-Tayl. Ibis*, 1864, p. 93; *Léot. Ois. Trinid.* p. 338 (1866); *Sclat. & Salv. P. Z. S.* 1868, p. 169; *Pelz. Orn. Bras.* p. 251 (1870); *id. Ibis*, 1873, p. 118; *Salv. Ibis*, 1886, p. 59.
Malacolophus cinnamomeus, *Swains. Classif. B.* ii. p. 309 (1837).
Celeopicos cinnamomeus, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 334.
Celeopicus cinnamomeus, *Malh. Picidæ*, ii. p. 32, pl. lvi. figs. 1, 2, ♂ ♀ (1862).
Celeus elegans, *Gray, List Picid. Brit. Mus.* p. 87 (1868); *id. Hand-l. B.* ii. p. 194, no. 8712 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 101 (1873); *Salv. Cat. Strickl. Coll.* p. 403, no. 1971 (1882).

Adult male. Back, scapulars, and wing-coverts rich rufous, with diamond-shaped or transverse spots of yellow; rump and upper tail-coverts yellow; primary-coverts rufous, with, at most, indistinct black bars; primaries black, the outer webs rufous on more or less of their basal portion, the inner webs barred with yellow tinged with rufous; secondaries rufous, the inner webs barred with black, the rufous interspaces being centred with yellow; shafts of primaries black, those of the secondaries reddish or brown; tail and the shafts black, except the dwarf feather, which is rufous and has an orange shaft, the bases of the black shafts being yellow; entire top of the head and the crest rufous buff, much paler than

the general rufous colour of the bird; entire face and neck, under surface of the body, and under tail-coverts uniform deep rufous, the malar region crimson, and the sides of the body, as well as the short tibial plumes yellow; under wing-coverts and axillaries uniform yellow. Total length 9·3 inches, culmen 1·25, wing 5·53, tail 3·35, tarsus 0·96; toes (without claws)—outer anterior 0·95, outer posterior 0·75, inner anterior 0·65, inner posterior 0·42.

Adult female. Differs from the adult male in wanting the crimson malar stripe. Total length 9 inches, culmen 1·2, wing 5·75, tail 3·6, tarsus 0·97.

Young. Resemble the adult of their respective sexes, but differ in having the back, scapulars, and wing-coverts uniform (or nearly so), the spots being generally concealed; the top of the head and the crest are slightly lighter.

Hab. Venezuela and the island of Trinidad, and in North Brazil.

a. ♂ imm. sk.	South America.	J. Gould, Esq.
b, c. ♂ ad.; *d.* ♀ ad. sk.	Venezuela.	Salvin-Godman Coll.
e. ♂ imm. sk.	Trinidad.	Sclater Coll.
f. ♂ ad. sk.	Brazil.	Tweeddale Coll.

6. Celeus reichenbachi.

Coleopicus reichenbachii, *Malh. Picidæ*, ii. p. 28, pl. lvi. figs. 4, 5, ♂ ♀ ad. (1862).
Picus reichenbachii, *Sundev. Consp. Av. Picin.* p. 85 (1866).
Celeus reichenbachii, *Gray, List Picid. Brit. Mus.* p. 87 (1868); *id. Hand-l. B.* ii. p. 194, no. 8713 (1870); *Pelz. Orn. Bras.* p. 251 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 101 (1873).
Celeus cinnamomeus (pt.), *Salv. Ibis*, 1886, p. 59.

Adult male. Resembles *C. elegans*, but may be distinguished by its very much larger dimensions, and dark brown back and underparts, and in having the crown and crest more rufous; the black bars on the inner webs of the secondaries more numerous and broader, and showing on more or less of the outer webs, and also on the rufous outer web of the primaries; the back, scapulars, and wing-coverts are more or less distinctly barred with blackish brown; the primary-coverts more distinctly barred black and rufous; the sides of the body and the under wing-coverts are of a deeper yellow, and occasionally tinged with rufous. Total length 11 inches, culmen 1·25, wing 6·65, tail 4, tarsus 1; toes (without claws)—outer anterior 0·95, outer posterior 0·77, inner anterior 0·6, inner posterior 0·38.

Adult female. Differs from the adult male in the absence of the red malar stripe. Total length 11 inches, culmen 1·38, wing 6·45, tail 3·85, tarsus 1.

Young. Resemble the adult of their respective sexes, but may be distinguished by having the primary-coverts and outer webs of the primaries less barred with black; the rump, upper tail-coverts, and the under wing-coverts less yellow.

Obs. There is a very great variety in the colour of the top of the head and crest, rump, and upper tail-coverts, and also in the under wing-coverts; typical specimens are more rufous and yellow, whereas examples from the Quonga have these parts extremely light, the rump and upper tail-coverts, as likewise the under wing-coverts being occasionally almost white with only a tinge of yellow.

Hab. Guiana, and ranging into Venezuela.

a. ♂ ad. st.	S. America.	J. Gould, Esq.
b. ♀ imm. sk.	S. America.	Gould Coll.
c. ♂ ad. sk.	Guarauno, N. Andalucia, Venezuela, March (*A. Goering*).	Salvin-Godman Coll.
d. ♂ ad. sk.	Camacusa, Brit. Guiana, March (*H. Whitely*).	Salvin-Godman Coll.
e. ♂ ad.; *f.* ♀ imm. sk.	Takutu R., British Guiana, March, May (*H. Whitely*).	Salvin-Godman Coll.
g, h. ♂ ♀ ad. sk.	Bartica Grove, British Guiana, Sept., Oct. (*H. Whitely*).	Salvin-Godman Coll.
i. ♂ ad.; *k.* ♀ imm. sk.	Quonga, British Guiana, Oct. (*H. Whitely*).	Salvin-Godman Coll.
l. ♂ ad. sk.	Maroni R., Surinam (*Kappler*).	Salvin-Godman Coll.
m. ♀ ad. sk.	Cayenne.	Salvin-Godman Coll.
n. ♂ imm. sk.	Cayenne.	Tweeddale Coll.
o. ♀ ad. sk.	Cayenne.	Sclater Coll.

7. Celeus jumana.

Picus jumana, *Spix*, *Av. Bras.* i. p. 57, pl. xlvii. figs. 1 ♂, 2 ♀ (1824); *Sundev. Consp. Av. Picin.* p. 85 (1866).

Malacolophus castaneus (*non Wagl.*), *Swains. Classif. B.* ii. p. 309 (1837).

Celeus jumana, *Gray*, *Gen. B.* ii. p. 440 (1846); *Bp. Consp. Gen. Av.* i. p. 130 (1850); *Reichenb. Scans. Picinæ*, p. 406, no. 951, pl. dclx. figs. 4376–77 (1854); *Sclat. & Salv. P. Z. S.* 1867, pp. 586, 595; *Gray, List Picid. Brit. Mus.* p. 87 (1868); *id. Hand-l. B.* ii. p. 194, no. 8714 (1870); *Pelz. Orn. Bras.* p. 251 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 101 (1873); *Layard, Ibis*, 1873, p. 390.

Celeus cinnamomeus (pt.), *Bp. Consp. Volucr. Zygod.* p. 8, no. 91 (1854).

Celeopicus jumana, *Malh. Picidæ*, ii. p. 27, pl. lv. figs. 1 ♂, 2 ♀ (1862), pt.

Adult male. Back rufous brown; rump and upper tail-coverts yellow with a slight rufous tinge; scapulars rufous, the basal portion yellow barred with dusky; wing-coverts brown, edged with rufous, the greater series spotted with rufous externally, the inner webs barred with yellow; outer webs of primaries brown, with a few buff spots at the base; the inner webs black, more or less barred with pale yellow, slightly rufescent; outer webs of secondaries rufous, with faint dusky bars, the inner webs black tipped with rufous and narrowly barred with yellow; shafts of quills dark brown, those of the secondaries rufous at the tip; tail black, the shafts also black, with the base of the central ones yellow; head,

neck, and underparts chocolate-brown, the malar region crimson, and the sides of the body yellow, this colour showing when the wing is closed; the flanks, thighs, and under tail-coverts yellow washed with rufous, the latter colour stronger on the coverts; under wing-coverts and axillaries yellow. Total length 11 inches, culmen 1·25, wing 6·1, tail 3·9, tarsus 0·95; toes (without claws)—outer anterior 0·95, outer posterior 0·8, inner anterior 0·62, inner posterior 0·38.

Adult female. Wants the red malar patch, but otherwise resembles the adult male. Total length 10 inches, culmen 1·15, wing 6, tail 3·35, tarsus 1.

Hab. North Brazil, from Para and the Capim River west to Marabitanas, and south to Salto do Girao on the Rio Madeira.

a. ♂ ad. sk.	Oyapoc, Cayenne.	Salvin-Godman Coll.
b. ♂ ad. sk.	Para, March (*A. R. Wallace*).	Sclater Coll.
c. ♂ ad. sk.	Para, Dec. (*J. Natterer*).	Sclater Coll.
d. ♂ ad. sk.	Para, Sept. (*E. L. Layard*).	Tweeddale Coll.
e. ♀ imm. sk.	Capim River, Brazil (*A. R. Wallace*).	Sclater Coll.
f. ♀ ad. sk.	Marabitanas, Brazil, May (*J. Natterer*).	Sclater Coll.

8. Celeus citreopygius.

Celeopicus jumana (pt.), *Malh. Bull. Soc. d'Hist. Nat. Metz*, 1851, p. 73; *id. Picidæ*, ii. p. 27, pl. lv. figs. 1, 2 (1862).

Celeus jumana (*non Spix*), *Sclat. P. Z. S.* 1858, p. 74; *id. Cat. Amer. B.* p. 336, no. 2005 (1862); *id. & Salv. P. Z. S.* 1866, p. 196; *iid. op. cit.* 1873, p. 291; *Tacz. op. cit.* 1882, p. 43; *id. Orn. Pérou*, iii. p. 97 (1886).

Celeus citreopygius, *Sclat. & Salv. P. Z. S.* 1867, pp 753, 758; *Gray, List Picid. Brit. Mus.* p. 88 (1868); *id. Hand-l. B.* ii. p. 194, no. 8719 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 101 (1873); *iid. P. Z. S.* 1873, p. 291; *Tacz. Orn. Pérou*, iii. p. 98 (1886).

Adult male. Resembles *C. jumana*, but differs in having the inner webs of the primaries black, with rufous-buff bases, the latter colour running obliquely from the base of the shaft towards the margin of the web; the secondaries rufous, lighter on the basal margin of the inner webs; the flanks, thighs, and under tail-coverts darker and more rufous, and the yellow on the sides of the body not showing when the wing is closed; the upper tail-coverts also deep rufous. Sometimes the quills have a trace of black spotting (more or less transverse) at the base. The dimensions are also greater. Total length 11·5 inches, culmen 1·23, wing 6·15, tail 3·8, tarsus 1; toes (without claws)—outer anterior 0·85, outer posterior 0·78, inner anterior 0·68, inner posterior 0·4.

Adult female. Differs from the adult male in wanting the crimson malar stripe. Total length 11·5 inches, culmen 1·18, wing 6·6, tail 4·1, tarsus 1.

Hab. North-eastern Peru (Yquitos, Santa Cruz, Yurimaguas, Sarayacu), and ranging north to Sarayacu in Ecuador.

a–c. ♂ ad.; *d.* ♀ ad. sk.	Sarayacu, Ecuador (*C. Buckley*).	Salvin-Godman Coll.
e. ♂ ad. sk.	Peruvian Amazons (*E. Bartlett*).	Sclater Coll.
f. ♀ ad. sk.	Yurimaguas, E. Peru (*E. Bartlett*).	Sclater Coll.
g. ♂ imm. sk.	Chamicuros, E. Peru, Oct.	E. Bartlett [C.].
h. ♂ ad. sk.	Sarayacu, E. Peru (*E. Bartlett*).	Salvin-Godman Coll.
i. ♀ ad. sk.	Samiria, E. Peru, Oct. (*J. Haurwell*).	Salvin-Godman Coll.
k. ♀ ad. sk.	Yquitos, Peru, Aug. (*H. Whitely*).	Salvin-Godman Coll.

9. Celeus rufus.

Pic roux de Cayenne, *Daubent. Pl. Enl.* 694. fig. 1, ♀.

Picus rufus, *Gm. Syst. Nat.* i. p. 432 (1788); *Temm. Cat. Syst.* p. 15 (1807); *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 91 (1818); *id. & Bonn. Enc. Méth.* iii. p. 1317 (1823); *Wagl. Syst. Av.* Picus, sp. 72 (1827); *Less. Traité*, i. p. 223 (1831); *Sundev. Consp. Av. Picin.* p. 87 (1866).

Celeus rufus, *Gray, Gen. B.* ii. p. 440 (1846); *Cab. in Schomb. Reis. Guian.* iii. p. 715 (1848); *Bp. Consp. Gen. Av.* i. p. 130 (1850); *Sclat. Cat. Amer. B.* p. 335, no. 1999 (1862); *Gray, List Picid. Brit. Mus.* p. 90 (1868); *id. Hand-l. B.* ii. p. 194, no. 8722 (1870); *Pelz. Orn. Bras.* p. 253 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 101 (1873); *Salv. Ibis*, 1886, p. 59.

Meiglyptes rufus, *Reichenb. Scans. Picinæ*, p. 404, no. 945, pl. dclix. figs. 4370–71, ♂ ♀ (1854).

Celeopicus rufus, *Malh. Picidæ*, ii. p. 13, pl. l. figs. 6, 7, ♂ ♀ (1862).

Adult male. Back, scapulars, wing-coverts, secondaries on both webs, and upper tail-coverts rufous barred with black, the rump yellower and more narrowly barred with black; primaries on both webs barred rufous and black, with more or less of the apical portion uniform black; shafts of primaries black, those of the secondaries brown where crossed by the black bar, otherwise orange-reddish; tail rufous, barred with black on the basal portion of the feathers, the apical portion black, except on the lateral feathers which are barred entirely with black; shafts black; head and neck paler rufous than the back, and transversely spotted with black; the malar region crimson, this colour extending upwards to the eye; fore neck and chest black, the feathers narrowly margined with rufous and having a scaly appearance; remainder of the underparts rufous, yellower posteriorly, the under tail-coverts also rufous, and the whole crossed by bars or bar-like spots of black; under wing-coverts and axillaries yellow; on the edge of the wing a few blackish spots; bill white at the tip. Total length 7·8 inches, culmen 0·86, wing 4·3, tail 2·6, tarsus 0·73; toes (without claws)—outer anterior 0·65, outer posterior 0·58, inner anterior 0·48, inner posterior 0·25.

Adult female. Differs from the adult male in the absence of red upon the malar region and cheeks, these being rufous, and the malar region spotted with black. Total length 7·6 inches, culmen 0·88, wing 4·3, tail 2·55, tarsus 0·7.

Young. In both sexes the top of the head and the crest are uniform; the chest and breast less black, the former being spotted with rufous; the barring on the underparts is very much narrower and of a less intense black. The male has a red malar stripe, and in the female this is absent.

Obs. The adult appear to possess two phases of plumage; one in which the top of the head and the crest are spotted, the other in which these are more or less uniform, in which respect they resemble the young. I have, however, never seen the young with the crown and crest other than uniform.

Hab. Guiana, and the northern part of Brazil, south to Barra do Rio Negro.

a. ♀ ad. st.	Brazil.	J. Gould, Esq.
b. ♂ ad. sk.	Cayenne.	Purchased.
c, d. ♂ ♀ ad. sk.	Cayenne.	Selater Coll.
e. ♀ ad. sk.	Albina, Surinam (*C. Bartlett*).	Salvin-Godman Coll.
f. ♂ ad. sk.	Maroni R., Surinam (*Kappler*).	Salvin-Godman Coll.
g. ♂ ad. sk.	Camacusa, British Guiana, May (*H. Whitely*).	Salvin-Godman Coll.
h. ♀ ad. sk.	Camacusa, March (*H. Whitely*).	Selater Coll.
i. ♂ imm.; *k.* ♀ ad. sk.	Takutu R., British Guiana, May (*H. Whitely*).	Salvin-Godman Coll.
l, m. ♂ ♀ ad. sk.	Merumé Mts., British Guiana, July (*H. Whitely*).	Salvin-Godman Coll.
n, o. ♂ ♀ ad. sk.	Bartica Grove, British Guiana, Aug., Nov. (*H. Whitely*).	Salvin-Godman Coll.

10. Celeus undatus *.

Red-cheeked Woodpecker, *Edwards, Glean. Nat. Hist.* iii. pl. 332, ♂ (1764).

Picus undatus, *Linn. Syst. Nat.* i. p. 175 (1766); *Gm. Syst. Nat.* i. p. 432 (1788); *Wagl. Syst. Av.* Picus, sp. 73 (1827); *Sundev. Consp. Av. Picin.* p. 87 (1866).

Malacolophus undatus, *Swains. Classif. B.* ii. p. 309 (1837).

Picus multifasciatus, *Malh. Mém. Soc. Sci. Liége*, 1845, p. 69.

Celeus undatus, *Gray, Gen. B.* ii. p. 440 (1846); *Bp. Consp. Gen. Av.* i. p. 129 (1850); *Gray, List Picid. Brit. Mus.* p. 90 (1868); *id. Hand-l. B.* ii. p. 195, no. 8727 (1870).

Cerchneipicus undatus, *Bp. Consp. Volucr. Zygod.* p. 9, no. 95 (1854).

Cerchneipicus multifasciatus, *Bp. Consp. Volucr. Zygod.* p. 9, no. 96 (1854).

Celeopicus multifasciatus, *Malh. Picidæ*, ii. p. 16, pl. l. figs. 4 ♂, 5 ♀ (1862).

Celeus multifasciatus, *Sclat. & Salv. P. Z. S.* 1867, pp. 586, 595; *Pelz. Orn. Bras.* p. 253 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 101 (1873).

Adult male. Resembles *C. rufus*, but differs in having the top of the head and the crest darker rufous, and, together with the sides of the face and neck, chin and throat, narrowly striped with black; the fore neck and chest less black, the former being rufous with

* Reichenbach's *Meiglyptes undatus* cannot be referred to this species, as neither the description nor the plate are correct.

heart-shaped spots of black, the latter barred rufous and black like the underparts; the innermost (only) of the primaries barred with rufous on the inner web, the inner webs of the others having more or less of the basal margin uniform buff or buffy white; tail rufous at the base, with only a trace of transverse black markings, the apical portion of the feathers black; bill horny brown, with a dark tip. Total length 7·8 inches, culmen 0·93, wing 4·5, tail 2·6, tarsus 0·8; toes (without claws)—outer anterior 0·65, outer posterior 0·55, inner anterior 0·43, inner posterior 0·27.

Adult female. "Differs from the adult male in wanting the red on the malar region. The dimensions are very similar to those of the male." (*Malherbe.*)

Hab. Para and the Lower Amazon region.

a. ♂ ad. sk.	Amazons (*A. R. Wallace*).	Sclater Coll.
b. ♂ ad. sk.	Para.	R. Graham, Esq. [P.].

11. Celeus loricatus.

Meiglyptes loricatus, *Reichenb. Scans. Picinæ*, p. 405, no. 947, pl. dclxxxi. figs. 4495–96 (1854).
Celeus undatus, *Sclat. P. Z. S.* 1860, p. 286.
Celeus mentalis, *Cass. Proc. Acad. Philad.* 1860, p. 137; *id. Journ. Acad. Philad.* 1863, p. 461, pl. lii. figs. 2, 3, ♂ ♀; *Sclat. & Salv. P. Z. S.* 1864, p. 367; *Gray, List Picid. Brit. Mus.* p. 91 (1868); *id. Hand-l. B.* ii. p. 195, no. 8729 (1870); *Zeled. Cat. Av. Costa Rica*, 1882, p. 283, no. 46.
Celeopicus fraseri, *Malh. Picidæ*, ii. p. 16, pl. xliii. bis. fig. 5 (1862).
Celeus fraseri, *Sclat. Cat. Amer. B.* p. 335, no. 2000 (1862).
Celeus squamatus, *Lawr. Ibis*, 1863, p. 184; *id. Ann. Lyc. N. York*, 1867, p. 11.
Picus loricatus, *Sundev. Consp. Av. Picin.* p. 87 (1866).
Picus pholidotus, *Sundev. Consp. Av. Picin.* p. 87 (1866).
Celeus loricatus, *Gray, List Picid. Brit. Mus.* p. 90 (1868); *id. Hand-l. B.* ii. p. 195, no. 8728 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 101 (1873); *iid. P. Z. S.* 1879, pp. 533, 549; *Tacz. & Berl. op. cit.* 1885, pp. 118, 123.

Adult male. Back, scapulars, and wing-coverts rufous, narrowly barred with black, the rump and upper tail-coverts paler, the former barred, the latter having crescentic markings and spots of black; quills rufous, barred with black, the apical portion of the primaries uniform black; shafts reddish, those of the outer primaries brownish black; tail black, broadly barred with rufous buff, the shafts black; head and neck rufous, the malar region, chin, and upper throat crimson; the feathers of the forehead and crown having black centres, the hind neck transversely spotted with black, and the throat and fore neck also spotted with black; entire underparts from below the fore neck to (and including) the under tail-coverts pale buff, the feathers of the chest margined with rufous, and, together with those of the upper breast, having a broad intermarginal squamate marking of black, the remaining underparts having crescentic markings of

black, the under tail-coverts having somewhat similar markings, or heart-shaped spots, at the tip, and on the basal portion transverse spots of black; under wing-coverts and axillaries rufous, with a few black spots on the edge of the wing. Total length 8·2 inches, culmen 0·95, wing 4·8, tail 2·8, tarsus 0·75; toes (without claws)—outer anterior 0·68, outer posterior 0·62, inner anterior 0·5, inner posterior 0·36.

Adult female. Differs from the adult male in the absence of red on the malar region, chin, and throat, these being uniform rufous. Total length 8·2 inches, culmen 0·92, wing 4·8, tail 2·75, tarsus 0·8.

Hab. Central America, north into Costa Rica, south into Antioquia and the western parts of Colombia and Ecuador, and extending into Peru (probably only the extreme north-west), Reichenbach's type being from the latter country.

a. ♂ ad. sk.	Veragua (*E. Arcé*).	Salvin-Godman Coll.
b, *c*. ♀ ad. sk.	Panama (*J. McLeannan*).	Salvin-Godman Coll.
d. ♂ ad. sk.	Remedios, Antioquia (*T. K. Salmon*).	Salvin-Godman Coll.
e. ♂ ad. sk.	Nichi, Antioquia (*T. K. Salmon*).	Selater Coll.
f. ♀ ad. sk.	Babahoyo, Ecuador (*L. Fraser*).	Selater Coll. (Type of *C. fraseri* Malh.).

12. Celeus castaneus.

Picus castaneus, *Wagl. Isis*, 1829, p. 515; *Sundev. Consp. Av. Picin.* p. 86 (1866).

Picus badiodes, *Less. Cent. de Zool.* pl. xiv. ♀ (1830).

Celeus badiodes, *Boie, Isis*, 1831, p. 542; *Gray, Gen. B.* ii. p. 440 (1846); *Bp. Consp. Gen. Av.* i. p. 130 (1850); *id. Consp. Volucr. Zygod.* p. 8, no. 90 (1854); *Sclat. P. Z. S.* 1857, p. 229.

Celeopicos badiodes, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 334.

Celeus castaneus, *Licht. Nomencl. Av.* p. 77 (1854); *Sclat. P. Z. S.* 1858, p. 359; *Moore, op. cit.* 1859, p. 60; *Sclat. t. c.* p. 388; *id. & Salv. Ibis*, 1859, p. 137; *Cav.-Tayl. op. cit.* 1860, p. 119; *Sclat. Cat. Amer. B.* p. 336, no. 2004 (1862); *Lawr. Ann. Lyc. Nat. Hist. N. York*, 1868, p. 130; *Gray, List Picid. Brit. Mus.* p. 88 (1868) *id. Hand-l. B.* ii. p. 194, no. 8716 (1870); *Sclat. & Salv. P. Z. S* 1870, p. 837; *Salv. Ibis*, 1872, p. 320; *id. & Sclat. Nomencl. Av Neotr.* p. 101 (1873); *Zeled. Cat. Av. Costa-Rica*, p. 23, no. 485 (1882); *Boucard, P. Z. S.* 1883, p. 452.

Meiglyptes castaneus, *Reichenb. Scans. Picinæ*, p. 405, no. 946 pl. dclix. fig. 4372, ♀ (1854).

Celeopicus castaneus, *Malh. Picidæ*, ii. p. 25, pl. l. figs. 1, 2, ♂ ♀ (1862).

Adult male. Head and upper part of neck rufescent buff, the malar region and the feathers more or less round the eye crimson; the remainder of the plumage (except the apical portion of the quills and of the tail-feathers) rich rufous, the back, scapulars, and wing-coverts with transverse black markings, the rump uniform, the upper tail-coverts with bar-like and sagittate spots of black; the

6

lower part of the neck with heart-shaped or V-shaped black spots; the under surface of the body and the under tail-coverts with broad V-shaped black markings; shafts of outer quills blackish brown, those of the inner feathers reddish; shafts of tail-feathers black; under wing-coverts and axillaries yellowish or buffy white. Total length 9 inches, culmen 1·03, wing 5·05, tail 3·1, tarsus 1·05; toes (without claws)—outer anterior 0·8, outer posterior 0·7, inner anterior 0·57, inner posterior 0·4.

Adult female. Differs from the adult male in wanting the red on the malar region and round the eye. Total length 8·8 inches, culmen 1·1, wing 4·95, tail 2·9, tarsus 1·08.

Hab. South Mexico, States of Vera Cruz (Orizaba) and Oaxaca, extending into Yucatan, and through Guatemala, Honduras, Nicaragua, and Costa Rica.

a. ♀ ad. sk.	Central America.	Sclater Coll.
b. ♀ ad. sk.	Atoyac, Vera Cruz, April (*Mrs. H. H. Smith*).	Salvin-Godman Coll.
c, d. ♀ ad. sk.	Orizaba, Mexico.	Salvin-Godman Coll.
e. ♀ ad. sk.	Tizimin, Northern Yucatan, May (*G. F. Gaumer*).	Salvin-Godman Coll.
f. ♀ ad. sk.	Orange Walk, British Honduras, Dec. (*G.F.Gaumer*).	Salvin-Godman Coll.
g ♀ ad. sk.	Guatemala.	O. Salvin, Esq. [C.].
h, i. ♂ ad.; *k, l.* ♀ ad. sk.	Guatemala.	Tweeddale Coll.
m. ♂ ad. sk.	Teleman, Vera Paz (*O. S.*).	Salvin-Godman Coll.
n, o. ♂ ♀ ad. sk.	Choctum, Vera Paz (*O. S.*).	Salvin-Godman Coll.
p. ♂ imm.; *q.* ♀ ad. sk.	Honduras.	Mr. Dyson [P.].
r. ♂ ad. sk.	Honduras.	Sclater Coll.
s. ♂ imm. sk.	Julian, Honduras (*G. M. Whitely*).	Salvin-Godman Coll.
t. ♂ ad. sk.	San Pedro, Honduras (*G. M. Whitely*).	Salvin-Godman Coll.
u. ♀ ad. sk.	Chontales, Nicaragua (*T. Belt*).	Salvin-Godman Coll.

13. Celeus grammicus.

Picus grammicus, *Malh. Mém. Soc. Roy. Liége*, 1845, p. 69; *Sundev. Consp. Av. Picin.* p. 86 (1866).

Cerchneipicus grammicus, *Bp. Consp. Volucr. Zygod.* p. 9, no. 97 (1854).

Celeopicus verreauxii, *Malh. Rev. Zool.* 1858, p. 8; *id. Picidæ*, ii. p. 14, pl. li. figs. 1, 2, ♂ ♀ (1862).

Celeus grammicus, *Sclat. P. Z. S.* 1858, p. 74; *id. Cat. Amer. B.* p. 335, no. 2001 (1862); *id. & Salv. P. Z. S.* 1866, p. 197; *Gray, List Picid. Brit. Mus.* p. 89 (1868); *id. Hand-l. B.* ii. p. 194, no. 8725 (1870); *Pelz. Orn. Bras.* p. 252 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 101 (1873); *iid. P. Z. S.* 1873, p. 297; *Tacz. op. cit.* 1882, p. 43; *id. Orn. Pérou*, iii. p. 96 (1886).

Celeus verreauxii, *Sclat. P. Z. S.* 1858, p. 74; *Gray, List Picid. Brit. Mus.* p. 89 (1868); *id. Hand-l. B.* ii. p. 194, no. 8724 (1870).

Celeopicus grammicus, *Malh. Picidæ*, ii. p. 18, pl. li. figs. 4, 5, ♂ ♀ (1862).

Picus verreauxi, *Sundev. Consp. Av. Picin.* p. 86 (1866).

Adult male. Differs from *C. castaneus* in being darker rufous above, and in having the greater part of the back, the scapulars, wing-coverts, and both webs of the secondaries (generally) barred with black, the rump and upper tail-coverts (alone) being uniform; the rufous on the outer webs of the primaries sometimes barred with black, the inner webs black, but with more or less of the basal margin dull yellowish buff; head and neck deep chocolate-brown, the feathers more or less centred with black; the abdomen, flanks, and under tail-coverts uniform; under wing-coverts and axillaries pale rufescent brown. Total length 8·3 inches, culmen 0·9, wing 4·85, tail 3, tarsus 0·8; toes (without claws)—outer anterior 0·65, outer posterior 0·6, inner anterior 0·46, inner posterior 0·32.

Adult female. Has no red on the malar region, this being dark rufous with a few almost obsolete spots of black. Total length 8 inches, culmen 0·85, wing 4·8, tail 2·85, tarsus 0·76.

Young. Resemble the adult, but have more rufous at the base of the central tail-feathers; the head and crest, as well as the neck, are uniform, or very slightly varied with black which centres the feathers.

Hab. Cayenne and west through the Upper Amazon region into Eastern Ecuador and North-east Peru.

a, b. ♂ ♀ ad. sk.	Oyapock, Cayenne.	Salvin-Godman Coll.
c. ♂ ad. sk.	Oyapock.	Sclater Coll.
d, e. ♂ ad.; *f.* ♀ ad. sk.	Sarayacu, Ecuador (*C. Buckley*).	Salvin-Godman Coll.
g. ♀ ad. sk.	Upper Amazons (*Bates*).	Sclater Coll.
h. ♂ juv. sk.	Ucayali, Peruvian Amazons, June.	E. Bartlett [C.].

14. Celeus spectabilis. (Plate X.)

Celeus spectabilis, *Sclat. & Salv. P. Z. S.* 1880, p. 161.

[*Adult female.*] (Type of species.) Back, scapulars, and wing-coverts fulvous, with a tinge of buff, each feather having broad bars and a large subapical spot of deep black; rump and upper tail-coverts fulvescent buff; bastard-wing and primary-coverts blackish brown, the latter margined with rufous; primaries deep rufous on more or less of their basal portion, this colour increasing in extent on the inner feathers and prolonged upon the outer webs, the apical portion of the primaries blackish brown; secondaries deep rufous tipped with blackish brown, the innermost of these feathers more or less fulvescent, broadly barred and spotted with black; shafts of primaries dark brown, those of the secondaries orange-reddish; tail black, the dwarf feather tipped and barred with fulvescent buff, shafts black; entire head and neck deep rufous; chest black; the under surface of the body and under tail-coverts fulvescent buff, the breast,

abdomen, vent, and upper series of under tail-coverts having more or less cordate spots of deep black, these being very large upon the upper breast; the flanks and thighs having only a few spots or stripes of black; under wing-coverts and axillaries fulvescent buff, the former having rounded spots of black. Total length 10 inches, culmen 1·18, wing 5·95, tail 3·85, tarsus 0·86; toes (without claws) —outer anterior 0·88, outer posterior 0·76, inner anterior 0·66, inner posterior 0·4.

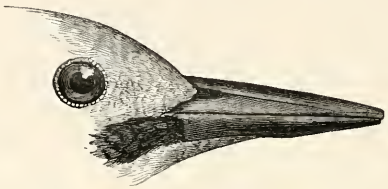
Hab. Sarayacu, Ecuador.

a. ♀ ad. sk. Sarayacu, Ecuador (*C. Buckley*). Salvin-Godman Coll. (Type of species.)

34. CERCHNEIPICUS.

Type.

Cerchneipicus, *Bp. Consp. Volucr. Zygod.* p. 9, no. 93 (1854)..... C. tinnunculus.



Bill of *Cerchneipicus torquatus*.

Range. Guiana, and throughout the greater part of Brazil, east to Pernambuco, south to the Paraguay and Guapore Rivers, and into North-east Peru.

Key to the Species.

A. Not barred either above or below; the lower part of the hind neck and the extreme upper part of the back black, this forming a broad collar.
  a'. With red malar suripe ..... *torquatus* ♂ ad., p. 437.
  b'. With no malar stripe ..... *torquatus* ♀ ad., p. 437.
B. Barred above and below; with no black collar on the lower hind neck and upper part of the back.
  c'. Upper parts, wings and their coverts broadly barred with black, the bars (generally) very much broader than the interspaces; the three outer large tail-feathers black and not barred, but with buff or rufous spots at the base of the inner webs.
    a''. With red malar stripe ..... *tinnunculus* ♂ ad., p. 438.
    b'. With no malar stripe..... *tinnunculus* ♀ ad., p. 438.

d'. Upper parts, wings and their coverts narrowly barred with black, the bars very much narrower than the interspaces; the whole of the tail-feathers barred rufous and black.

c''. With red malar stripe..... *occidentalis* ♂ ad., p. 439.

d''. With no malar stripe..... *occidentalis* ♀ ad., p. 439.

1. Cerchneipicus torquatus.

Le Pic à cravate noire, *Buff. Hist. Nat. Ois.* vii. p. 35 (1780).

Pic à cravate noire de Cayenne, *Daubent. Pl. Enl.* no. 863, ♀ ad.

Picus torquatus, *Bodd. Tabl. Pl. Enl.* p. 52, no. 863 (1783).

Picus multicolor, *Gm. Syst. Nat.* i. p. 429 (1788); *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 71 (1818); *id. & Bonn. Enc. Méth.* iii. p. 1306 (1823); *Valenc. Dict. Sc. Nat.* xl. p. 175 (1826); *Sundev. Consp. Av. Picin.* p. 84 (1866).

Picus scutatus, *Wagl. Syst. Av.* Picus, no. 77 (1827).

Picus thoracinus, *Less. Traité*, i. p. 223 (1831).

Celeus torquatus, *Gray, Gen. B.* ii. p. 440 (1846); *id. List Picid. Brit. Mus.* p. 89 (1868); *id. Hand-l. B.* ii. p. 194, no. 8723 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 101 (1873).

Celeus multicolor, *Cab. in Schomb. Reis. Guian.* iii. p. 715 (1848); *Bp. Consp. Gen. Av.* i. p. 130 (1850); *Reichenb. Scans. Picinæ*, p. 406, no. 949, pl. dclx. figs. 4374–75, ♀ ♀ (1854); *Pelz. Ibis*, 1873, p. 118; *Salv. op. cit.* 1886, p. 59.

Celeopicos multicolor, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 335.

Cerchneipicus multicolor, *Bp. Consp. Volucr. Zygod.* p. 9, no. 94 (1854).

Celeopicus multicolor, *Malh. Picidæ*, ii. p. 34, pl. lii. figs. 1, 2, ♂ ♀ (1862).

Adult male. Above, together with the wings and tail and their coverts rufous, a broad black band across the extreme upper back, the outer wing-coverts margined at the tip and with an occasional spot of black; the primaries and outer secondaries narrowly barred with black, the outer primaries having their apical portion black, the others only tipped with the same; shafts of outer primaries brown, those of inner primaries and secondaries reddish; tail-feathers tipped and narrowly barred with black, the shafts black; head and crest rufous, paler on the chin and throat; a very large crimson malar stripe; the whole of the neck in a line with the hind part of the malar stripe, chest and upper breast uniform black, and uniting with the black zone on the upper back; the remainder of the underparts and under tail-coverts, under wing-coverts and axillaries uniform pale rufous or rufous buff. Total length 10·5 inches, culmen 1·35, wing 5·85, tail 3·85, tarsus 0·95; toes (without claws)—outer anterior 0·85, outer posterior 0·75, inner anterior 0·62, inner posterior 0·35.

Adult female. May be distinguished from the adult male by the

absence of the red malar stripe. Total length 10·5 inches, culmen 1·32, wing 6, tail 3·7, tarsus 0·92.

Hab. Guiana, and Northern Brazil from Barra do Rio Negro to Pernambuco.

a, *b*. ♂ ♀ ad. sk.	Guiana (*H. Whitely*).	Sclater Coll.
c. ♂ ad. sk.	Takutu R., British Guiana (*H. Whitely*).	Salvin-Godman Coll.
d. ♂ ad. sk.	Rupununi River, British Guiana, July 12 (*H. Whitely*).	Salvin-Godman Coll.
e. ♂ ad. sk.	Pernambuco, Brazil (*Craven*).	Sclater Coll.

2. Cerchneipicus tinnunculus.

Picus tinnunculus, *Wagl. Isis*, 1829, p. 516; *Neuwied, Beitr. Naturg. Bras.* iv. p. 401, ♂ (1832); *Sundev. Consp. Av. Picin.* p. 84 (1866).

Celeus tinnunculus, *Boie, Isis*, 1831, p. 542; *Bp. Consp. Gen. Av.* i. p. 130 (1850); *Reichenb. Scans. Picinæ*, p. 405, no. 948, pl. dclx. fig. 4373, ♀ (1854); *Burm. Th. Bras.* ii. p. 232 (1856); *Gray, List Picid. Brit. Mus.* p. 89 (1868); *id. Hand-l. B.* ii. p. 194, no. 8721 (1870); *Pelz. Orn. Bras.* p. 250 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 101 (1873).

Celeopicos tinnunculus, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 334.

Cerchneipicus tinnunculus, *Bp. Consp. Volucr. Zygod.* p. 9, no. 93 (1854).

Celeopicus tinnunculus, *Malh. Picidæ*, ii. p. 36, pl. liii. figs. 4, 5, ♂ ♀ (1862).

Adult male. Differs from *C. torquatus* in having the hind neck and entire back, rump and upper tail-coverts, wing-coverts, and the whole rufous of the quills clearly and broadly barred with black, the ground-colour above is also paler; the apical half of the four central rectrices black, the basal half narrowly barred with rufous and more broadly with black, the remaining tail-feathers black, with buff or rufous spots at the base of the inner webs; the head, chin, and throat very much paler; the side of the neck, fore neck, chest, and upper breast black as in *C. torquatus*, but the entire underparts below the black, also the under tail-coverts are pale buff or buffy white barred with black; under wing-coverts and axillaries buff, the latter as well as the outermost of the former spotted with black. Total length 11·5 inches, culmen 1·65, wing 6, tail 3·75, tarsus 0·92; toes (without claws)—outer anterior 0·95, outer posterior 0·82, inner anterior 0·68, inner posterior 0·42.

Adult female. Differs from the adult male in the absence of the red malar stripe. Total length 11·5 inches, culmen 1·4, wing 6·25, tail 3·95, tarsus 1·07.

Hab. Eastern Brazil (Bahia), and westward in Matto Grosso to the Paraguay and Guapore Rivers.

a. ♀ ad. st.	Brazil.	Zoological Society.
b. ♀ ad. sk.	Bahia, Brazil (*Dr. Wucherer*).	Salvin-Godman Coll.
c. ♂ ad. sk.	Bahia (*Dr. Wucherer*).	Sclater Coll.

3. Cerchneipicus occidentalis. (Plate XI.)

Celeus tinnunculus *(non Wagl.)*, *Sclat. Cat. Amer. B.* p. 336, no. 2008 (1862); *id. & Salv. P. Z. S.* 1866, p. 196, 1873, p. 291; *Tacz. Orn. Pérou*, iii. p. 96 (1886).
Cerchneipicus occidentalis, *Hargitt, Ibis*, 1889, p. 230.

Adult male. Resembles *C. tinnunculus* below, the underparts, from the lower breast downwards, being barred with black, but differs in having the entire upper parts and upper tail-coverts, also the wings and their coverts, more rufous and very narrowly barred with black, the bars being sometimes only a third the width of the rufous interspaces; occasionally the bars on the back are reduced to transverse spots, and the wing-coverts only slightly spotted with black; the lateral tail-feathers as well as the basal portion of the others are barred rufous and black; the hind neck is uniform rufous like the top of the head, and the head, chin, and throat are rather darker than in *C. tinnunculus*, and the under wing-coverts are also more rufous. Total length 10·7 inches, culmen 1·33, wing 6·12, tail 3·75, tarsus 0·95; toes (without claws)—outer anterior 1·05, outer posterior 0·92, inner anterior 0·67, inner posterior 0·46.

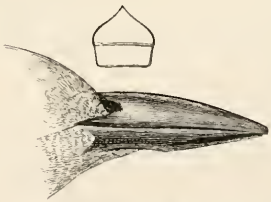
Adult female. Wants the crimson malar stripe possessed by the male, which it in other respects resembles. Total length 10 inches, culmen 1·4, wing 6·05, tail 3·75, tarsus 1.

Hab. North-east Peru (Upper Ucayali); Brazil, probably confined to the western part, but precise range in that country not known.

a. ♀ ad. sk.	Brazil.		Sclater Coll.
b. ♂ ad. sk.	Upper Ucayali, Peruvian Amazons, July.		E. Bartlett [C]. (Type of species.)
c. ♂ ad. sk.	Samiria, E. Peru, Sept. (*J. Hauxwell*).		Salvin-Godman Coll.

35. CROCOMORPHUS.

Type, *C. flavus.*



Bill of *Crocomorphus flavus*

Range. The northern portion of South America; Guiana, Venezuela, and Trinidad; westward into North-east Peru, and east to Bahia.

Key to the Species.

A. Head, neck, and body, above and below, uniform yellow.
  a'. Wing-coverts dusky brown or rufous-brown, tipped only with dull pale yellow; secondaries deep rufous.
    a''. With red malar stripe ..... *flavus* ♂ ad., p. 440.
    b''. With no malar stripe ..... *flavus* ♀ ad., p. 441.
  b'. Wing-coverts almost entirely pale yellow; secondaries more or less pale sandy rufous.
    c''. With red malar stripe ..... *semicinnamomeus* ♂ ad., p. 441.
    d''. With no malar stripe ..... *semicinnamomeus* ♀ ad., p. 442.
B. Head, neck, and body not uniform; the crown, chest, upper back, and upper tail-coverts spotted and varied with dark brown; with a red malar stripe in the male ..... *flavus* juv., p. 441.

1. Crocomorphus flavus.

Picus flavus, *Müll. Syst. Nat.* 1776, p. 91.

Pic jaune de Cayenne, *Buff. Hist. Nat. Ois.* vii. p. 32 (1780); *Daubent. Pl. Enl.* no. 509, ♂ ad.

Picus citrinus, *Bodd. Tabl. Pl. Enl.* p. 30, no. 509 (1783).

Picus exalbidus, *Gm. Syst. Nat.* i. p. 428 (1788); *Valenc. Dict. Sc. Nat.* xl. p. 174 (1826); *Less. Traité*, i. p. 223 (1831); *Neuwied, Beitr. Naturg. Bras.* iv. p. 404 (1832); *Sundev. Consp. Av. Picin.* p. 85 (1866).

Picus flavicans, *Lath. Ind. Orn.* i. p. 240 (1790); *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 78 (1818); *Spix, Av. Bras.* i. p. 60, pl. li. fig. 2, ♀ (1824).

Celeus exalbidus, *Boie, Isis*, 1831, p. 542; *Cab. in Schomb. Reis. Guian.* iii. p. 715 (1848); *Bp. Consp. Gen. Av.* i. p. 130 (1850); *id. Consp. Volucr. Zygod.* p. 8, no. 88 (1854); *Reichenb. Scans. Picinæ*, p. 407, no. 954, pl. dclxi. figs. 4384–85, ♂ ad. & juv. (1854).

Malacolophus flavicans, *Swains. Classif. B.* ii. p. 309 (1837).

Celeus citrinus, *Gray, Gen. B.* ii. p. 440 (1846); *Sclat. Cat. Amer. B.* p. 336, no. 2006 (1862); *id. & Salv. P. Z. S.* 1866, p. 196, 1867, p. 753; *Pelz. Orn. Bras.* p. 252 (1870); *Layard, Ibis*, 1873, p. 390; *Sclat. & Salv. P. Z. S.* 1873, p. 291; *Tacz. Orn. Pérou*, iii. p. 99 (1886); *Salv. Ibis*, 1886, p. 59.

Celeopicus exalbidus, *Malh. Picidæ*, ii. p. 30, pl. lv. figs. 4–6, ♂ ♀ ad., ♂ juv. (1862).

Celeus flavus, *Gray, List Picid. Brit. Mus.* p. 88 (1868); *id. Hand-l. B.* ii. p. 194, no. 8715 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 101 (1873); *Salv. Cat. Strickl. Coll.* p. 403, no. 1969 (1882), pt.

Celeus semicinnamomeus (*non Reichenb.*), *Gray, List Picid. Brit. Mus.* p. 88 (1868); *id. Hand-l. B.* ii. p. 194, no. 8720 (1870).

Celeus subflavus, *Sclat. & Salv. P. Z. S.* 1877, p. 21.

Adult male. Head, neck, and entire body above and below, also the scapulars and upper tail-coverts, canary-yellow; wing-coverts

dusky brown tipped with dingy yellow; primaries brownish black, with more or less of the outer web rufous, slightly dusky, and the basal portion of the inner web also rufous or sometimes inclining to pale yellow, the secondaries rufous, sometimes uniform, at other times having the inner webs with yellowish margins and a blackish-brown stripe next to the shaft and spreading out on the tip of the feather, the rufous colour on these feathers occasionally dingy; the innermost of all the secondaries yellow; shafts of primaries brownish black, those of the rufous secondaries rufous or reddish, shading into brown at the base, the shafts of the innermost secondaries yellowish white: tail brownish black, the shafts of the central feathers black, those of the lateral ones brown; under wing-coverts and axillaries canary-yellow. Total length 9·8 inches, culmen 1·05, wing 5·7, tail 3·2, tarsus 1·1; toes (without claws)—outer anterior 0·83, outer posterior 0·83, inner anterior 0·6, inner posterior 0·3.

Adult female. Resembles the adult male, but wants the crimson malar stripe. Total length 10·5 inches, culmen 1·02, wing 5·75, tail 3·65, tarsus 1·02.

Young. Both sexes differ considerably from the adult in having the top of the head, the chest, upper part of the back, and the upper tail-coverts spotted and varied with dark brown, this colour generally forming a central spot on the feather. The male has a red malar stripe, and in the female this is wanting.

Hab. Guiana and the northern part of Brazil, extending westward into North-east Peru, and eastward to Bahia.

a. ♂ ad. sk.	Guiana.	Sclater Coll.
b. ♂ ad. sk.	British Guiana.	Salvin-Godman Coll.
c. ♂ ad.; *d*. ♀ imm. sk.	Cayenne.	Sclater Coll.
e, f. ♂ ♀ ad. st.	Cayenne.	Zoological Society.
g. ♂ imm. sk.	Para, Sept. (*E. L. Layard*).	Tweeddale Coll.
h. ♀ juv. sk.	Bahia, Brazil (*Dr. Wucherer*).	Salvin-Godman Coll.
i. ♂ imm. sk.	Brazil.	
k. ♂ ad.; *l*. Imm. sk.	Sarayacu, Ecuador (*C. Buckley*).	Salvin-Godman Coll.
m. ♀ ad. sk.	Sarayacu (*C. Buckley*).	Sclater Coll.
n, o. ♂ ♀ ad. sk.	Samiria, E. Peru (*J. Hauxwell*).	Salvin-Godman Coll.
p. ♂ ad. sk.	Chayavetas, E. Peru, July (*E. Bartlett*).	Salvin-Godman Coll.

2. Crocomorphus semicinnamomeus.

Celeus semicinnamomeus, *Reichenb. Scans. Picinæ*, p. 407, no. 956, pl. delxi. fig. 4386, ♂ (1854).
Celeopicus semicinnamomeus, *Malh. Picidæ*, ii. p. 26 (1862).
Picus exalbidus (pt.), *Sundev. Consp. Av. Picin.* p. 85 (1866).
Celeus flavus (*non Müll.*), *Sclat. & Salv. P. Z. S.* 1868, p. 169; *iid.* (pt.) *Nomencl. Av. Neotr.* p. 101 (1873); *Salv. Cat. Strickl. Coll.* p. 403, no. 1969 (1882), pt.

Adult male. Resembles *C. flavus*, but differs in having the wing-

coverts almost entirely yellow, and the secondaries of a more sandy rufous. Total length 9 inches, culmen 1·05, wing 5·4, tail 3·2, tarsus 0·98 ; toes (without claws)—outer anterior 0·85, outer posterior 0·78, inner anterior 0·6, inner posterior 0·32.

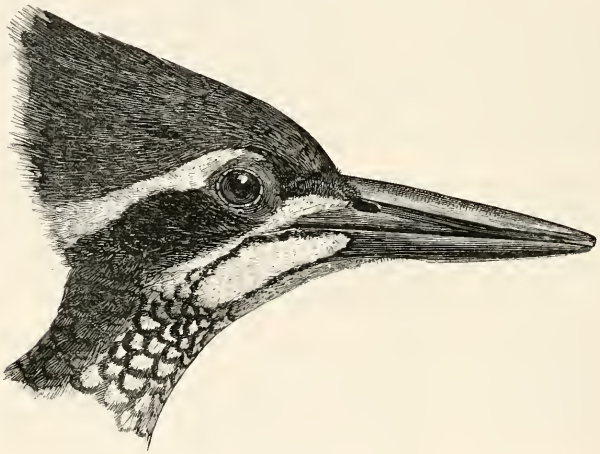
Adult female. Wants the red malar stripe, but is otherwise like the adult male. Total length 9 inches, culmen 1, wing 5·15, tail 3·1, tarsus 0·95.

Hab. Venezuela and Trinidad.

a. ♀ ad. sk.	Venezuela.	Salvin-Godman Coll.
b. ♂ ad. sk.	N. Andalucia, Venezuela, March (*A. Goering*).	Salvin-Godman Coll.

36. CHRYSOCOLAPTES.

	Type.
Chrysocolaptes, *Blyth, J. A. S. B.* 1843, p. 1004 . .	C. strictus.
Indopicus, *Malh. Mém. Acad. Metz*, 1848–49, p. 342 .	C. guttacristatus.
Reinwardtipicus, *Bp. Consp. Volucr. Zygod.* p. 7, no. 14 (1854)	C. validus.
Xylolepes, *Cab. & Heine, Mus. Hein.* iv. p. 108 (1863).	C. validus.



Head of *Chrysocolaptes strictus.*

Range. Throughout India and Ceylon ; Assam, Cachar, the Burmese Provinces, into Siam and Lower Cochin China ; south through the Malayan Peninsula into Sumatra, Java, and Borneo ; also occurring in many of the Philippine Islands.

Key to the Species.

A. Entire underparts from the throat downwards varied with black.
  a'. Back (except the extreme upper part), rump, upper tail-coverts, and scapulars black, contrasting with the golden wing-coverts.
    a''. Top of the head and the crest red, the base (only) of the forehead spotted with white .... *festivus* ♂ ad., p. 446.
    b''. Crown and crest golden yellow, the entire forehead spotted with white..... *festivus* ♀ ad., p. 446.
  b'. Back, scapulars, and wing-coverts olive-golden, contrasting with the red rump.
    c''. Ground-colonr of the face and neck pale golden buff or buffy white.
      a'''. Top of the head and the crest red ..... *strictus* ♂ ad., p. 447.
      b'''. Top of the head and the crest yellow ..... *strictus* ♀ ad., p. 448.
    d''. Ground of the face and neck white.
      c'''. Top of the head and the crest red; ♂ juv. resembles ♂ ad. *guttacristatus* ♂ ad., p. 449.
      d'''. Top of the head and the crest black, spotted with white; ♀ juv. resembles ♀ ad. .... *guttacristatus* ♀ ad., p. 449.
    e''. Face and upper part of the side of the neck almost entirely crimson, the chin and throat pinkish buff.
      e'''. Top of the head and the crest red ..... *erythrocephalus* ♂ ad., p. 452.
      f'''. Top of the head and the occipital crest golden olive, tinged with red and spotted with golden white ..... *erythrocephalus* ♀ ad., p. 452.
  c'. Back, rump, scapulars, and wing-coverts red.
    f''. With a broad black stripe from behind the eye extending down the side of the neck.
      g'''. Underparts creamy white, the feathers of the fore neck and chest entirely margined with black and having a squamate appearance; the remaining under feathers margined, but not tipped, with black, and having a striated character.
        a^4. Top of the head and the crest red ..... *stricklandi* ♂ ad., p. 453.

b^4. Top of the head and the crest black, spotted with white. *stricklandi* ♀ ad., p. 454.

h'''. Underparts strongly fulvescent white or buffy white, with narrow transverse markings of black or olive-brown, the chest-feathers broadly margined with olive, the fulvescent portion being reduced to spots.

c^4. Top of the head and the crest red ..... *hæmatribon* ♂ ad., p. 454.

d^4. Middle of crown and the crest red, the remainder of crown and the forehead blackish brown, spotted with dull white ..... *hæmatribon* ♂ juv., p. 455.

e^4. Top of the head and the crest black, spotted with pure white ..... *hæmatribon* ♀ ad., p. 455.

g''. With no black stripe running from behind the eye down the side of the neck.

i'''. The bases of the feathers of the back, scapulars, wing-coverts, and that portion of the secondaries which is not red, olive; face golden yellow, the orbital region (only) with stripe-like spots of black; the malar region with a median black line in addition to the upper and lower black margins; ground-colour of upper tail-coverts olive.

f^4. Fore neck, chest, and breast with buff longitudinal spots on a ground of blackish brown, only slightly olive; top of the head and the crest red ..... *lucidus* ♂ ad., p. 456.

g^4. Fore neck, chest, and breast with heart-shaped spots of fulvescent white on an olive ground.

a^5. Top of the head and the crest red ..... *lucidus* ♂ imm., p. 456.

b^5. Top of the head and the crest olive-golden, tinged with red and spotted with golden white .... *lucidus* ♀ imm., p. 456.

j'''. The bases of the feathers of the back, scapulars, wing-coverts, and that portion of the secondaries not red, brown; ground of upper tail-coverts brownish black; face

yellowish buff, entirely varied with black striations; the rufous-buff malar region without any black median line; top of the head and the crest blackish brown, washed with red, the feathers having a triangular apical spot of rufescent buff ..... *rufopunctatus* ♀ ad., p. 457.

B. Fore neck and chest (only) varied with black; the remaining underparts uniform yellow; upper parts, scapulars, wing-coverts, and outer webs of secondaries deep red.

d'. Top of the head and the crest red. *xanthocephalus* ♂ ad., p. 457.

e'. Top of the head and the crest yellow, like the face..... *xanthocephalus* ♀ ad., p. 458.

C. Fore neck and chest, as well as the underparts, uniform, red in the male and dusky brown in the female; scapulars, wing-coverts, and quills blackish brown (the latter barred with rufous), contrasting with the back.

f'. Top of the head and the occiput red; lower part of the back and the rump varying from bright red to orange ..... *validus* ♂ ad., p. 459.

g'. Top of the head and the occiput blackish brown; entire back and rump white ..... *validus* ♀ ad., p. 459.

1. Chrysocolaptes festivus.

Pic verd de Goa, *Buff. Hist. Nat. Ois.* vii. p. 22 (1780); *Daubent. Pl. Enl.* 696, ♂.

Goa Woodpecker, *Lath. Gen. Syn.* ii. p. 582 (1782).

Picus festivus, *Bodd. Tabl. Pl. Enl.* p. 43, no. 696 (1783); *Sundev. Consp. Av. Picin.* p. 80 (1866).

Picus goensis, *Gm. Syst. Nat.* i. p. 434 (1788); *Lath. Ind. Orn.* i. p. 235 (1790); *Steph. Gen. Zool.* ix. p. 187, pl. 35**, ♂ (1815); *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 98, ♂ (1818); *id. & Bonn. Enc. Méth.* iii. p. 1321, ♂ (1823); *Valenc. Dict. Sc. Nat.* xl. p. 174 (1826); *Drap. Dict. Class.* xiii. p. 499 (1828).

Picus humeralis, *Wagl. Syst. Av.* Picus, sp. 93 (1827).

Dendrocopus elliotti, *Jerd. Madr. Journ.* 1840, p. 212, ♀.

Brachypternus goensis, *Strickl. P. Z. S.* 1841, p. 31.

Picus (Chrysocolaptes) melanotus, *Blyth, J. A. S. B.* 1843, p. 1005.

Chrysocolaptes goensis, *Gray, Gen. B.* ii. p. 436 (1845); *Blyth, Cat. B. Mus. As. Soc.* p. 55 (1849); *Bp. Consp. Gen. Av.* i. p. 121 (1850); *id. Consp. Volucr. Zygod.* p. 10, no. 173 (1854); *Reichenb. Scans. Picinæ*, p. 400, no. 931, pl. dclv. fig. 4359, ♂ (1854); *Jerd. B. Ind.* i. p. 282 (1862).

Indopicus goensis, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 343; *id. Picidæ*, ii. p. 82, pl. lxvi. figs. 1, 2, ♂ ♀ (1862).

Chrysocolaptes festivus, *Gray, Gen. B.* iii. App. p. xxi (1849); *Cab.*

& Heine, Mus. Hein. iv. p. 168 (1863); *Blyth, Ibis*, 1866, p. 355; *Gray, List Picid. Brit. Mus.* p. 63 (1868); *Blanf. J. A. S. B.* 1869, p. 168; *Gray, Hand-l. B.* ii. p. 189, no. 8647 (1870); *Holdsw. P. Z. S.* 1872, p. 427; *Jerd. Ibis*, 1872, p. 8; *Adam, Str. F.* 1873, p. 373; *Ball, op. cit.* 1874, p. 391; *Legge, Ibis*, 1875, p. 283; *Butl. Str. F.* 1875, p. 458, 1876, p. 37; *Ball, op. cit.* vii. p. 206 (1878); *Hume, op. cit.* 1879, p. 87, no. 167; *Butl. Cat. B. Sind Sc.* no. 167 (1879); *Vidal, Str. F.* 1880, p. 52; *Hume, t. c.* p. 191; *Butl. t. c.* p. 385; *J. Davidson, op. cit.* x. p. 297 (1882); *W. Davison, Str. F.* x. p. 355 (1883); *Swinh. & Barnes, Ibis*, 1885, p. 62.

Adult male. The middle feathers of the upper back and the hind neck white, the former edged externally with black; the remainder of the back, the rump, upper tail-coverts, scapulars, and the forearm uniform brownish black; wing-coverts bright golden yellow on the margins, the remaining part olive, and the bases black; quills brownish black, the secondaries golden olive externally, the outer webs spotted with dull brownish or olivaceous white, the inner webs having larger and whiter spots; shafts blackish brown; tail-feathers and the shafts black; base of the forehead black, spotted with white, the remainder of the forehead, crown, and crest crimson; sides of the face and neck, and the whole of the underparts from the chin to the under tail-coverts (both inclusive) white or slightly buffy, varied with black in the following manner:—a stripe borders the crown and occiput, a broad stripe from behind the eye, including the ear-coverts, runs down the side of the neck; the malar region is margined below and has a narrow longitudinal stripe running across it, and on the chin and throat there is a median line; from and including the fore neck downwards all the feathers are more or less broadly margined with black, except at the tip, and the whole has a striped appearance; under wing-coverts black, transversely spotted with white; the axillaries white, with large black spots. Total length 11·8 inches, culmen 2·15, wing 6·08, tail 3·25, tarsus 1·15; toes (without claws)—outer anterior 0·95, outer posteroir 1·1, inner anterior 0·73, inner posterior 0·5.

*Adult female**. Has the whole of the forehead as well as the feathers bordering the crown brownish, spotted with creamy white, the crown and crest brilliant golden yellow. In other respects it resembles the adult male. Total length 11·5 inches, culmen 2, wing 6·05, tail 3·2, tarsus 1·12.

Young. The male resembles the adult of the same sex in having the crown and occiput red, but they are more scarlet. The forehead is sparingly spotted with white, but the ground-colour is smoky grey. The female is like the male, but the feathers of the crown and crest are more or less yellow between the black bases and the red tips.

Hab. India (generally), from the Aravalli range in the west to

* Sometimes confounded with the female of the Javan *C. strictus*, on account of its yellow crown and crest.

Chota Nagpur in the east, north to Naini-Tal and southward into the island of Ceylon. Not found in the South-east Himalayan Provinces.

a. ♂ ad. sk.	Sambhur, May 5, 1873.	Hume Coll.
b. ♂ ad. sk.	Khyree Ghur, Naini-Tal (*S. Pinwill*).	Tweeddale Coll.
c. ♀ imm. sk.	Oudh Terai (*S. Pinwill*).	Tweeddale Coll.
d, *e*. ♂ ♀ ad. sk.	Oudh Terai.	Capt. Stackhouse Pinwill [P.].
f. ♂ ad.; *g*, *h*. ♀ ad. sk.	Bhundara district, March.	Hume Coll.
i, *k*. ♂ ♀ ad. st.	Behar.	Hodgson Coll.
l, *m*. ♂ ad.; *n*. ♀ juv. sk.	Behar.	Hodgson Coll.
o. ♂ ad. sk.	Sumbalpur, April 9, 1875.	Hume Coll.
p–*z*. ♂ ad. et imm.; *a'*–*k'*. ♀ ad. et imm. sk.	Raipur, Dec., Jan., Feb.	Hume Coll.
l'. ♀ ad. sk.	Manpur, May 26, 1882.	Col. Swinhoe [P.].
m'. ♂ ad. sk.	Taloda, Khandeish, Dec. 10, 1879 (*J. Davidson*).	Hume Coll.
n'. ♀ ad.; *o'*. ♀ imm. sk.	Khandeish.	Tweeddale Coll.
p'. ♂ ad. sk.	Ratnagiri, Sept. 15, 1878 (*G. Vidal*).	Hume Coll.
q'. ♂ ad. sk.	Coonoor Ghat, Sept. 1876 (*R. G. W. R.*).	Tweeddale Coll.
r', *s'*. ♂ ♀ ad. sk.	Ceylon.	Tweeddale Coll.

2. Chrysocolaptes strictus.

Picus strictus, *Horsf. Trans. Linn. Soc.* xiii. p. 176 (1822); *Less. Compl. Buff.* ix. p. 314 (1837); *Jerd. B. Ind.* i. p. 283 (1862).
Picus goensis (*non Gm.*), *Horsf. Zool. Research. Java* (1824).
Picus peralaimus, *Wagl. Syst. Av.* Picus, sp. 93, non syn. (1827).
Chrysocolaptes strictus, *Blyth, J. A. S. B.* 1843, p. 1004; *Gray, Gen. B.* ii. p. 436 (1845); *Bp. Consp. Gen. Av.* i. p. 121 (1850); *id. Consp. Volucr. Zygod.* p. 10, no. 172 (1854); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 654 (1856–58); *Cab. & Heine, Mus. Hein.* iv. p. 167 (1863); *Gray, List Picid. Brit. Mus.* p. 63 (1868); *id. Hand-l. B.* ii. p. 189, no. 8645 (1870); *Blyth, Ibis*, 1870, p. 163; *Vorderm. Over. Nat. Tijds. Nederl. Ind.* xliv. p. 191 (1884).
Picus (Chrysocolaptes) strictus, *Blyth, J. A. S. B.* 1845, p. 191.
Indopicus strictus, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 343; *id. Picidæ*, ii. p. 80, pl. lxv. figs. 1 ♂ ad., 3 ♀ ad. (1862).
Picus sultaneus *β*, *Sundev. Consp. Av. Picin.* p. 80 (1866).
Picus sultaneus (pt.), *Gieb. Thes. Orn.* iii. p. 181 (1876).

Adult male. Back, rump, scapulars, and wing-coverts golden olive, the feathers having golden margins, those of the rump being edged at the tip with red; quills blackish brown, the outer webs of the primaries having more or less of the margin golden olive, those of the secondaries entirely of this colour; inner webs of the quills having rounded spots of white; shafts clear brown; upper tail-

coverts blackish brown, some being slightly margined with dull olive; tail-feathers and the shafts black; forehead, crown, and occiput crimson, the bases of the feathers sooty black, those of the crown having a central speck of white, the occipital feathers having a larger spot of white; upper nasal plumes and upper half of lores dark brown; the lower nasal plumes, lower half of loral region, sides of the face and neck, throat and chest pale golden buff or buffy white, becoming dull white on the underparts and under tail-coverts: behind the eye a broad black stripe runs backwards down the side of the neck, becoming slightly olive posteriorly; the malar region is partly encircled by black, and there is a narrow black median stripe on the chin and throat; the feathers of the fore neck, side of the neck (outside the black stripe), and chest margined with black, the remainder of the underparts and the under tail-coverts transversely varied and barred with black, the tips of the body-feathers being occasionally black; under wing-coverts white, margined with dusky black, the edge of the wing olive. Total length 10 inches, culmen 1·72, wing 5·55, tail 2·6, tarsus 1·15; toes (without claws)—outer anterior 0·82, outer posterior 0·95, inner anterior 0·68, inner posterior 0·43.

Adult female. Has the forehead, crown, occiput, and nape golden yellow, with a slight ochreous or buff tinge, the bases of the feathers being black. In other respects it resembles the adult male. Total length 10·7 inches, culmen 1·7, wing 5·6, tail 3·1, tarsus 1·1.

Immature female. Differs from the adult of the same sex in being less golden above, and in having the forehead and crown spotted with golden white; the ground of the face and throat is whiter; the fore neck and chest blacker, the white on the feathers appearing as a central spot; the ground of the underparts whiter; the tips of the feathers of the rump of a washed-out red.

Hab. Confined to the island of Java.

a, b. ♂ ♀ ad. sk.	Java (*Horsfield*).	India Museum. (Types of species.)
c. ♂ ad. sk.	Java (*Horsfield*).	India Museum.
d, e. ♂ ♀ ad. sk.	E. Java.	Wallace Coll.
f. ♂ ad.; *g.* ♀ juv. sk.	E. Java (*A. R. Wallace*).	Tweeddale Coll.
h. Skeleton.	Java.	Purchased.

3. Chrysocolaptes guttacristatus.

Picus guttacristatus, *Tick. J. A. S. B.* 1833, p. 578, ♀.
Picus sultaneus, *Hodgs. J. A. S. B.* 1837, p. 105; *Blyth, op. cit.* 1842, p. 105; *Hodgs. in Gray's Zool. Misc.* 1844, p. 85.
Picus strenuus, *Gould, teste M'Clell. P. Z. S.* 1839, p. 165.
Picus strictus (*non Horsf.*), *Jerd. Madr. Journ.* 1840, p. 210; *Blyth, J. A. S. B.* 1842, p. 970.
Picus (Chrysocolaptes) strictus, *Blyth, J. A. S. B.* 1845, p. 191.
Chrysocolaptes sultaneus, *Gray, Gen. B.* ii. p. 436 (1845); *id. Cat. Mamm. &c. Nepal pres. Hodgs.* 1846, p. 116; *Blyth, Cat. B. Mus. As. Soc.* p. 55 (1849); *Bp. Consp. Gen. Av.* i. p. 121 (1850); *id. Consp. Volucr. Zygod.* p. 10, no. 171 (1854); *Reichenb. Scans.*

Picinæ, p. 399, no. 926, pl. dcliv. fig. 4352, ♀ (1854); *Gray, Cat. Gen. B. Brit. Mus.* 1855, p. 92, no. 1566; *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 653 (1856–58); *Jerd. B. Ind.* i. p. 281 (1862); *Gray, Cat. Mamm. &c. Nepal pres. Hodgs.* 1863, p. 63, no. 480; *Cab. & Heine, Mus. Hein.* iv. p. 166 (1863); *Gray, List Picid. Brit. Mus.* p. 62 (1868); *Beavan, Ibis*, 1869, p. 413; *Blanf. op. cit.* 1870, p. 464; *Elwes, t. c.* p. 527; *Gray, Hand-l. B.* ii. p. 189, no. 8643 (1870); *Jerd. Ibis*, 1872, p. 8; *Ball, Str. F.* 1874, p. 391; *Hume, t. c.* p. 471; *id. & Oates, op. cit.* 1875, p. 64; *Armstr. op. cit.* 1876, p. 310; *Hume, op. cit.* 1877, p. 26; *id. & Davison, op. cit.* vi. p. 133 (1878); *Hume, op. cit.* 1879, p. 52; *Tiraut, Ois. B.-Cochinchine*, p. 89 (1879); *Vidal, Str. F.* 1880, p. 52; *Bingh. t. c.* p. 162; *Oates, Str. F.* x. p. 90 (1882); *Salvad. Ann. Mus. Civ. Stor. Nat. Genova*, 1887, p. 579, 1888, p. 567; *Hume, Str. F.* xi. p. 61 (1888).

Indopicus sultaneus, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 343; *id. Picidæ*, ii. p. 77, pl. lxiv. figs. 1 ♂, 2 ♀ (1862).

Indopicus delesserti, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 343; *id. Picidæ*, ii. p. 79, pl. lxiv. figs. 4 ♀, 5 ♂, pl. lxv. fig. 3 ♀ (not ♀ of *C. strictus*) (1862).

Chrysocolaptes baccha, *Reichenb. Scans. Picinæ*, p. 399, no. 927, pl. dcliv. figs. 4353–54, ♂ ♂ (1854).

Chrysocolaptes delesserti, *Bp. Consp. Volucr. Zygod.* p. 10, no. 174 (1854); *Cab. & Heine, Mus. Hein.* iv. p. 167 (1863); *Gray, List Picid. Brit. Mus.* p. 62 (1868); *id. Hand-l. B.* ii. p. 189, no. 8644 (1870); *Hume, Ibis*, 1870, p. 437; *Jerd. op. cit.* 1872, p. 8; *Hume, Str. F.* 1876, p. 389; *Fairb. op. cit.* 1877, p. 396; *Davidson & Wend. op. cit.* vii. p. 78 (1878); *Ball, t. c.* p. 205; *Hume, op. cit.* 1879, p. 87, no. 166 bis.

Picus sultaneus, *a, Sundev. Consp. Av. Picin.* p. 79 (1866).

Chrysocolaptes gutticristatus, *Jerd. Ibis*, 1872, p. 8; *Blyth & Wald. B. Burm.* p. 75 (1875); *Fairb. Str. F.* 1876, pp. 255, 265.

Chrysocolaptes strictus (*non Horsf.*), *Hume, Str. F.* 1879, pp. 87, 154; *id. op. cit.* 1880, p. 107; *Butl. t. c.* pp. 238, 385; *W. Davison, op. cit.* x. p. 354 (1883); *Oates, B. Brit. Burm.* ii. p. 53 (1883).

Indopicus strictus, *Malh. Picidæ*, ii. p. 80, pl. lxv. fig. 2, ♀ (1862) (pt.); *Müll. Orn. Ins. Salanga*, p. 61 (1882).

Adult male. Resembles *C. strictus*, but differs in having the ground of face and side of the neck white, but with similar black markings; also in having the entire rump red; the broad black stripe down the side of the neck not olive posteriorly; the hind neck conspicuously white. The dimensions are greater, very conspicuously so in Northern examples. Total length 12 inches, culmen 2·3, wing 6·7, tail 3·4, tarsus 1·33; toes (without claws)—outer anterior 1·03, outer posterior 1·17, inner anterior 0·8, inner posterior 0·56.

Adult female. Differs from the adult male in having the forehead, crown, and elongated occipital and nuchal feathers brownish black, with more or less rounded spots of white, some of the spots being slightly tinged with buff. Total length 12 inches, culmen 2, wing 6·78, tail 3·55, tarsus 1·23.

Southern examples of this species run small, and are deeper-coloured than those from the north.

Hab. Throughout India; Assam; Cachar and Manipur; south through British Burmah and the Malayan Peninsula to Singapore; also ranging through Siam into Lower Cochin China.

a. ♀ ad. sk.	Mynall, Travancore.	Hume Coll.
b. ♀ imm. sk.	Lower Palani Hills, June 18, 1877 (*S. B. Fairbank*).	Hume Coll.
c. ♂ ad. sk.	Sisparah, Nilghiri Hills, May 25, 1867 (*W. Davison*).	Hume Coll.
d, e. ♂ ♀ ad. sk.	Coonoor, Nilghiris, Jan. 1881 (*W. Davison*).	Hume Coll.
f, g. ♂ ♀ ad. sk.	Coonoor Ghat, May, Sept.	Tweeddale Coll.
h, i. ♀ ad. sk.	Kotagherry, Nilghiris, Jan., March (*W. Davison*).	Hume Coll.
k, l. ♂ ad.; *m–p*. ♀ ad. sk.	Ootacamund, April, May, Sept. (*W. Davison*).	Hume Coll.
q. ♀ ad. sk.	Nellacotta, Wynaad, March 29, 1881 (*W. Davison*).	Hume Coll.
r, s. ♂ ad. sk.	Wynaad, April, Oct. (*W. Davison*).	Hume Coll.
t, u. ♂ ad.; *v*. ♀ juv. sk.	Mysore.	Hume Coll.
w. ♂ ad. sk.	Madras.	T. C. Jerdon, Esq. [C.].
x, y. ♀ ad. sk.	Malabar.	Tweeddale Coll.
z. ♂ ad. sk.	Malabar Coast.	Hume Coll.
a', *b'*. ♂ ♀ ad. sk.	Moolus, W. Coast (*Colonel Sturt*).	Tweeddale Coll.
c'. ♂ ad. sk.	Khandala, March 16, 1876 (*S. B. Fairbank*).	Tweeddale Coll.
d'. ♂ ad. sk.	Goa Frontier, April 24, 1875 (*S. B. Fairbank*).	Tweeddale Coll.
e'. ♂ imm.; *f'*. ♀ ad. sk.	Khandeish, May.	Hume Coll.
g'. ♂ imm. sk.	Maunbhoom, Feb. 1865 (*R. C. Beavan*).	Hume Coll.
h'. ♀ ad. sk.	Sunnye, Gurhwal Bhabur, Feb. 5, 1870.	Hume Coll.
i', *k'*. ♂ ♀ ad. sk.	Dehra Dhoon.	Tweeddale Coll.
l', *m'*. ♂ ♀ ad. sk.	Kalsi, Jan., Feb., 1868.	Hume Coll.
n'. ♂ ad. sk.	Eastern Dhoon.	Hume Coll.
o'. ♂ ad.; *p'*. ♀ juv. sk.	Kumaon (*Strachey*).	India Museum.
q'. ♂ ad. sk.	Almorah, Oct. 27, 1868.	Hume Coll.
r'. ♀ ad. sk.	Almorah.	Pinwill Coll.
s'. ♂ ad. sk.	Naini Tal.	Pinwill Coll.
t', *u'*. ♂ ♀ ad. sk.	Fyzabad, Oudh.	Hume Coll.
v', *w'*. ♂ ♀ ad. sk.	Nepal.	Hodgson Coll. (Types of *P. sultaneus*.)
x', *y'*. ♂ ad. et juv.; *z'*, *a''*, *b''*. ♀ ad. et juv. sk.	Nepal.	Hodgson Coll.
c'', *d''*. ♂ ♀ ad. sk.	Nepal (*B. H. Hodgson*).	India Museum.
e'', *f''*. ♂ ad.; *g''*, *h'*. ♀ ad. sk.	Native Sikhim, Feb. 1875 (*L. Mandelli*).	Hume Coll.
i''–n''. ♂ ad. et imm.; *o''–r''*. ♀ ad. sk.	Sikhim, Jan., Feb., March, April, Aug., Nov. (*L. Mandelli*).	Hume Coll.

s'', *t''*, *u''*. ♂ ad. et juv.; *v''*. ♀ ad. sk.	Darjeeling.	Hume Coll
w'', *x''*. ♀ ad.; *y''*. ♀ juv. sk.	Buxa Doars, Jan. 1878 (*L. Mandelli*).	Hume Coll.
z''. ♀ juv. sk.	Bhotan (*Pemberton*).	India Museum.
*a*³, *b*³, *c*³. ♀ ad. sk.	Bhotan Doars, Dec., Jan., Feb. (*L. Mandelli*).	Hume Coll.
*d*³, *e*³. ♀ ad. sk.	Assam (*M'Clelland*).	India Museum. (Types of *P. strenuus*.)
*f*³. ♀ ad. sk.	Assam (*A. W. Chennell*).	Tweeddale Coll
*g*³. ♂ ad. sk.	Tippook, Assam, March 25, 1877 (*J. Cockburn*).	Hume Coll.
*h*³. ♂ ad. sk.	Dibrughur, March 1, 1880 (*J. R. Cripps*).	Hume Coll.
*i*³, *k*³. ♂ ♀ ad. sk.	N. Khasia Hills, Feb. 1876 (*A. W. Chennell*).	Tweeddale Coll.
*l*³. ♂ imm. sk.	Cachar (*J. Inglis*).	Hume Coll.
*m*³. ♂ ad. sk.	Comilla, Tipperah.	Hume Coll.
*n*³. ♂ ad. sk.	San-g-ya-wa, British Burmah, Dec. 21, 1873 (*R. G. W. R.*).	Tweeddale Coll.
*o*³. ♀ ad. sk.	Yaytho, Aug. 8, 1873 (*R. G. W. R.*).	Tweeddale Coll.
*p*³–*s*³. ♂ ad. et juv.; *t*³–*x*³. ♀ ad. et juv. sk.	Tonghoo, Jan., Feb. (*R. G. W. R.*).	Tweeddale Coll.
*y*³. ♂ ad.; *z*³. ♂ juv. sk.	Pegu.	W. T. Blanford, Esq. [P.].
*a*⁴. ♂ ad. sk.	Pegu, Nov. 1875 (*E. W. Oates*).	Hume Coll.
*b*⁴, *c*⁴. ♂ ad.; *d*⁴. ♀ ad. sk.	Thayetmyo, Aug. (*E. W. Oates*).	Hume Coll.
*e*⁴. ♀ ad. sk.	China Ba-keer, Rangoon, Feb. 20, 1875 (*J. Armstrong*).	Hume Coll.
*f*⁴, *g*⁴. ♂ ♀ ad. sk.	Borongho, March 29, 1876 (*J. Armstrong*).	Hume Coll.
*h*⁴. ♂ ad. sk.	Elephant Point, Dec. 13, 1875 (*J. Armstrong*).	Hume Coll.
*i*⁴. ♀ ad. sk.	Rangoon, April (*J. Armstrong*).	Hume Coll.
*k*⁴. ♀ ad. sk.	Irrawady Delta, July 1874 (*E. W. Oates*).	Hume Coll.
*l*⁴, *m*⁴. ♂ ♀ ad. sk.	Siam (*Mouhot*).	Gould Coll.
*n*⁴. ♂ ad. sk.	Kollidoo, Tenasserim, Feb 3, 1874 (*W. Davison*).	Hume Coll.
*o*⁴. ♂ ad. sk.	Kyouk-nyat, Jan. 26, 1872 (*W. Davison*).	Hume Coll.
*p*⁴, *q*⁴. ♂ ad.; *r*⁴. ♀ ad. sk.	Pahpoon, Dec., Jan. (*W. Davison*).	Hume Coll.
*s*⁴. ♂ ad. sk.	Younzaleen, Dec. 20, 1873 (*W. Davison*).	Hume Coll.
*t*⁴, *u*⁴, *v*⁴. ♂ ad.; *w*⁴. ♀ ad. sk.	Thatone, Nov., Jan. (*W. Davison*).	Hume Coll.
*x*⁴. ♀ ad.; *y*⁴, *z*⁴. ♂ ad. et juv. sk.	Tavoy, Feb., March, May (*W. Davison*).	Hume Coll.
*a*⁵. ♀ ad. sk.	Nwalabo, April 6, 1878 (*W. Davison*).	Hume Coll.
*b*⁵. ♀ ad. sk.	Yeaboo, Atteran River, March 11, 1874 (*W. Davison*).	Hume Coll.

c^5. ♂ ad. sk.	Nedong, Atteran River, Dec. 11, 1873 (*W. Davison*).	Hume Coll.
d^5. ♀ ad. sk.	Zahdee, April 5, 1874 (*W. Davison*).	Hume Coll.
e^5, f^5. ♂ ad.; g^5, h^5. ♀ ad. sk.	Kaukaryit, Sept., Oct. (*J. Darling*).	Hume Coll.
i^5, k^5, l^5. ♂ ad. et juv.; m^5, n^5. ♀ ad. et juv. sk.	Amherst, Jan., Feb., March, June.	Hume Coll.
o^5. ♀ ad. sk.	Moulmein, March 22, 1874 (*W. Davison*).	Hume Coll.
p^5. ♂ ad. sk.	Thounganee Sakan, Jan. 17, 1877 (*W. Davison*).	Hume Coll.
q^5. ♀ ad. sk.	Mergui, Dec. 8, 1874 (*W. Davison*).	Hume Coll.
r^5, s^5. ♂ ad.; t^5, u^5, v^5. ♀ ad. et juv. sk.	Pakchan, Jan., Feb., March (*W. Davison*).	Hume Coll.
w^5–z^5. ♂ ad. et imm.; a^6, b^6. ♀ ad. sk.	Bankasoon, Dec., April, June (*W. Davison*).	Hume Coll.
c^6. ♂ ad.; d^6. ♂ juv. sk.	Malewoon, Feb. 21, 1875 (*W. Davison*).	Hume Coll.
e^6. ♀ ad. sk.	Wippitan, Dec. 10, 1878 (*J. Darling*).	Hume Coll.
f^6. ♂ ad. sk.	Tonka Island, Jan. 28, 1879 (*J. Darling*).	Hume Coll.
g^6. ♂ ad. sk.	Salang, Tonka, Feb. 16, 1879 (*J. Darling*).	Hume Coll.
h^6, i^6. ♂ ad. sk.	Penang (*Dr. Cantor*).	India Museum.
k^6, l^6. ♂ ♀ ad. sk.	Penang.	Wallace Coll.
m^6, n^6. ♂ ♀ ad. sk.	Singapore.	Dr. McInlay [P.].
o^6, p^6. Bones of trunks.	Nepal.	Hodgson Coll.

4. Chrysocolaptes erythrocephalus.

Chrysocolaptes erythrocephalus, *Sharpe, Trans. Linn. Soc.* 1877, xxx. pp. 315, 350, pl. xlvi. fig. 1; *Tweedd. P. Z. S.* 1878, p. 612; *Wardl.-Rams. Tweedd. Mem.* pp. 607, 655 (1881); *Sharpe, Ibis*, 1884, p. 317, 1888, p. 197.

Adult male. Resembles *C. strictus*, but may be distinguished by having the face and the upper part of the side of the neck crimson, the ear-coverts alone being black; the feathers of the lower side of the neck blackish olive tipped with olive-yellow; the chin and upper throat pink; the rump entirely scarlet: "iris crimson; bill pale yellow tinged with greenish; feet and claws grey-green" (*Everett*). Total length 10·5 inches, culmen 1·75, wing 5·7, tail 3·25, tarsus 1·18; toes (without claws)—outer anterior 0·85, outer posterior 1·05, inner anterior 0·58, inner posterior 0·48.

Adult female. Differs from the adult male in having the fore-

head, crown, and occipital crest olive tinged with red, the feathers being tipped with a golden-white spot; the outer edge of the crown and occiput and the nuchal feathers crimson. There is rather less red on the face and upper part of the side of the neck, and the chin and upper throat are of a paler pinkish buff.

Young [*female*]. Resembles the adult male in having the top of the head and the crest entirely red, but the colour is scarlet (not crimson) and the feathers are extremely soft; there is less red on the face and upper part of the side of the neck, and only a tinge of this colour on the chin and throat; the general colour above and on the wings is more olive, and the feathers of the back, the scapulars, and the lesser and median wing-coverts are margined with reddish orange; the scapulars and the feathers of the back and rump have the partially exposed black bases spotted with white; on the outer primaries there is a subapical spot of dull white. Described from a specimen sexed ♀ by Mr. John Whitehead.

Hab. The island of Palawan.

a. ♂ imm. sk.	Palawan.	E. Lemprière, Esq. [C.].
b. ♀ ad. sk.	P. Princesa, Palawan, Nov. 27, 1877 (*A. Everett*).	Tweeddale Coll.
c. ♂ ad. sk.	P. Princesa, Palawan, Dec. 2, 1877 (*A. Everett*).	Tweeddale Coll.

5. Chrysocolaptes stricklandi.

Picus ceylonus (*non Forst.*), *Jerd. Ill. Ind. Orn.* pl. 47.
Brachypternus stricklandi, *Layard, Ann. & Mag. Nat. Hist.* 1854, xiii. p. 449.
Indopicus carlotta, *Malh. Rev. de Zool.* 1854, p. 379; *id. Picidæ*, ii. p. 87, pl. lxvii. figs. 1 ♂ ad., 2 ♂ imm., 3 ♂ juv., 4 ♀ ad. (1862).
Brachypternus erythronotus (pt.), *Reichenb. Scans. Picinæ*, p. 398, sub no. 923, pl. dcxxix. fig. 4186, ♂ (1854).
Brachypternus ceylonus, *Jerd. B. Ind.* i. p. 298 (1862).
Chrysocolaptes stricklandi, *Cab. & Heine, Mus. Hein.* iv. p. 169 (1863); *Blyth, Ibis*, 1867, p. 297; *Jerd. op. cit.* 1872, p. 9; *Holdsw. P. Z. S.* 1872, pp. 405, 408, 427; *Layard, op. cit.* 1873, p. 204; *Legge, Ibis*, 1874, p. 15; *Holdsw. t. c.* p. 123; *Legge, op. cit.* 1875, pp. 283, 410; *Hume, Str. F.* vii. p. 368 (1878), 1879, p. 87, no. 166 ter; *Legge, B. Ceyl.* p. 188, ♂ ♀ figd. (1880).
Chrysocolaptes carlotta, *Blyth, Ibis*, 1865, p. 31.
Picus carlotta, *Sundev. Consp. Av. Picin.* p. 80 (1866).
Brachypternus carlotta, *Gray, List Picid. Brit. Mus.* p. 96 (1868); *id. Hand-l. B.* ii. p. 196, no. 8748 (1870); *Legge, Str. F.* 1875, p. 200.

Adult male. Differs from *C. guttacristatus* in having the entire back as well as the rump, the scapulars, wing-coverts, and outer webs of the secondary quills deep crimson; the top of the head and the crest are of a deep crimson; the head, neck, and underparts present the following differences—instead of the white stripe which runs backwards from the supercilium to the nape, there is a row of white

spots, and the hind neck is black with a median row of white spots; the light centres to the feathers of the upper breast have a less spotted character; the dimensions are less than in typical *C. guttacristatus*, which species it very much resembles except in the colour of the upper parts: "iris golden white; bill brownish olive at base, changing into greenish white, then into brownish white at tip; legs and feet greenish slate" (*W. V. Legge*). Total length 10·5 inches, culmen 1·75, wing 5·6, tail 3·2, tarsus 1·1; toes (without claws)—outer anterior 0·85, outer posterior 0·96, inner anterior 0·66, inner posterior 0·46.

Adult female. Differs from the adult male in having the forehead, crown, and occiput intense black, each feather with a rounded spot of white near the tip. Total length 10·8 inches, culmen 1·77, wing 5·83, tail 3·4, tarsus 1·1.

Young. The male has the whole of the top of the head and the crest blackish brown, the forehead having a few white spots, the feathers of the crown and crest being tipped with dull scarlet. The female has the whole of the top of the head and the crest black spotted with white and devoid of red.

Hab. Confined to Ceylon.

a. ♂ ad. st.	Ceylon.	Purchased.
b. ♀ ad. sk.	Ceylon, Jan. 7, 1873 (*W. V. Legge*).	Hume Coll.
c, *d.* ♂ ad.; *e.* ♀ juv. sk.	Ceylon, Jan., July, 1866 (*S. Chapman*).	Tweeddale Coll.
f. ♂ ad.; *g*, *h*, *i.* ♀ ad. et juv. sk.	Ceylon, Jan., March, Oct.	W. Vincent Legge, Esq. [P.].

6. Chrysocolaptes hæmatribon.

Picus hæmatribon, *Wagl. Syst. Av.* Picus, sp. 95, ♀ (1827); *Sundev. Consp. Av. Picin.* p. 80 (1866).

Picus spilolophus, *Vig. P. Z. S.* 1831, p. 98, ♀; *Less. Compl. Buff.* ix. p. 310, ♀ (1837).

Picus philippinarum (*non Lath.*), *Less. Traité*, i. p. 222, ♀ (1831).

Brachypternus hæmatribon, *Strickl. P. Z. S.* 1841, p. 31.

Chrysocolaptes hæmatribon, *Blyth, J. A. S. B.* 1843, p. 1004; *Gray, Gen. B.* ii. p. 436 (1845); *Blyth, Cat. B. Mus. As. Soc.* p. 55 (1849); *Bp. Consp. Gen. Av.* i. p. 121 (1850); *id. Consp. Volucr. Zygod.* p. 10, no. 175 (1854); *Reichenb. Scans. Picinæ*, p. 400, no. 930, pl. dclv. figs. 4357–58, ♀ ♀ (1854); *Jerd. B. Ind.* i. p. 283 (1862); *Cab. & Heine, Mus. Hein.* iv. p. 169 (1863); *Gray, List Picid. Brit. Mus.* p. 63 (1868); *id. Hand-l. B.* ii. p. 189, no. 8646 (1870); *Wald. P. Z. S.* 1873, p. 526; *Tweedd. op. cit.* 1877, p. 689; *Wardl.-Rams. Tweedd. Mem.* pp. 299, 314, 410, 515, 655 (1881).

Indopicus hæmatribon, *Malh. Picidæ*, ii. p. 84, pl. lxviii. figs. 1 ♂, 2 ♂ juv., 3 ♀ (1862).

Adult male. Resembles *C. stricklandi* in the upper parts, wings and tail, except that the white spots on the inner webs of the quills are rather smaller in the present species. It differs from *C.*

stricklandi mainly in having the underparts below the chest pale fulvescent buff with narrow blackish transverse markings, the feathers of the breast having olive margins, the fulvescent white being reduced to spots; the malar region, chin, and throat are rufescent buff, the black edging to the former and the median line down the latter formed of a series of crescentic markings; the whole of the orbital region spotted with white: "bill greenish black; iris deep crimson; feet greenish grey" (*Everett*). Total length 11 inches, culmen 1·65, wing 5·6, tail 3·25, tarsus 1·1; toes (without claws)—outer anterior 0·8, outer posterior 1·1, inner anterior 0·65, inner posterior 0·5.

Young male. Has the sinciput and supercilium brownish black spotted with white, the remaining feathers of the crown and crest having scarlet tips and concealed white spots.

Adult female. Differs from the adult of the opposite sex in having the forehead, crown, occiput, and nape black, each feather with a subapical rounded spot of white, those of the occiput having, as in the male, a concealed central spot of white. Total length 11 inches, culmen 1·6, wing 5·57, tail 3·4, tarsus 0·98.

Hab. Philippine Islands, Luzon and north into Calayan.

a, b. ♂ ad.; *c, d.* ♀ ad. st.	Philippines.	Purchased.
e, f. ♂ ♀ ad. sk.	Philippines.	Gould Coll.
g, h. ♂ ad. et juv.; *i.* ♀ ad. sk.	Luzon, Jan., Feb., April, 1872 (*A. B. Meyer*).	Tweeddale Coll.
k. ♂ ad. sk.	Manila.	Gould Coll.
l. ♀ ad. sk.	Manila (*Maitland Heriot*).	Tweeddale Coll.
m, n. ♂ ad. sk.	Monte Alban, Feb., March (*A. Everett*).	Tweeddale Coll.

7. Chrysocolaptes lucidus.

Pic grivelé ou Grand Pic de l'isle de Luçon, *Sonn. Voy. Nouv. Guin.* 1776, p. 73, pl. xxxvii.

Le Palalaca ou Pic vert tacheté des Philippines, *Buff. Hist. Nat. Ois.* vii. p. 21 (1780).

Pic verd des Philippines, *Daubent. Pl. Enl.* 691.

Bengal Woodpecker, var. B, *Lath. Gen. Syn.* ii. p. 581 (1782).

Picus aurantius (*non Linn.*), *Bodd. Tabl. Pl. Enl.* p. 43 (1783).

Picus lucidus, *Scop. Del. Fl. Faun. Insubr.* ii. p. 89 (1786).

Picus bengalensis, var. γ, *Gm. Syst. Nat.* i. p. 433 (1788).

Picus philippinarum, *Lath. Ind. Orn.* i. p. 236 (1790); *Steph. Gen. Zool.* ix. p. 190 (1815); *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 85 (1818); *id. & Bonn. Enc. Méth.* iii. p. 1314 (1823); *Valenc. Dict. Sc. Nat.* xl. p. 175 (1826); *Sundev. Consp. Av. Picin.* p. 80 (1866).

Picus palalaca, *Wagl. Syst. Av.* Picus, sp. 92 (1827).

Picus squamosus, *Less. Traité*, i. p. 230 (1831).

Brachypternus philippinarum, *Strickl. P. Z. S.* 1841, p. 31.

Chrysocolaptes philippinarum, *Gray, Gen. B.* ii. p. 436 (1845); *Bp. Consp. Volucr. Zygod.* p. 10, no. 176 (1854); *Gray, List Picid. Brit. Mus.* p. 63 (1868).

Chrysocolaptes aurantius, *Gray, Gen. B.* iii App. p. xxi (1849);

Cab. & Heine, Mus. Hein. iv. p. 168 (1863); *Gray, Hand-l. B.* ii. p. 189, no. 8648 (1870).

Chrysocolaptes palalaca, *Bp. Consp. Gen. Av.* i. p. 121 (1850); *Reichenb. Scans. Picinæ*, p. 400, no. 932, pl. delv. fig. 4360 (1854).

Indopicus philippinarum, *Malh. Picidæ*, ii. p. 85, pl. lxvi. figs. 3 ♂, 4 ♀ (1862).

Chrysocolaptes lucidus, *Tweedd. P. Z. S.* 1877, pp. 537, 539, 822, 1878, p. 942; *Wardl.-Rams. Tweedd. Mem.* pp. 314, 410, 461, 462, 463, 548, 633, 655 (1881); *Kütter, J. f. O.* 1883, p. 295.

Chrysocolaptes maculiceps, *Sharpe, Trans. Linn. Soc.* 1877, xxx. pp. 314, 350, pl. xlvi. fig. 2, ♀.

Adult male. Back, scapulars, and wing-coverts crimson, the tips of the feathers being of this colour, the partially concealed portion being dull golden olive, the rump bright crimson, most of the feathers having concealed white spots, but these showing through the red on the rump; upper tail-coverts olive, margined with dull red at the tip and having fulvescent white spots and a black shaft-stripe; outer webs of the primaries olivaceous greyish brown, more or less washed with golden olive and spotted with dull yellowish white, those of the secondaries golden olive washed with dull crimson; inner webs of the quills brownish black with large marginal spots of white; shafts brown; tail brown, the central feathers margined with golden olive at the base, the outer webs of the feathers having one basal spot of white, the inner webs having two spots, shafts brownish black; forehead, crown, and occipital crest crimson; face golden yellow, the orbital region varied with short black stripes; nape and hind neck golden buff, the feathers margined (except at the tip) with black, the nuchal feathers tipped with crimson; malar region, side of the neck, and from the chin to the under tail-coverts, both inclusive, buff, paler posteriorly, the malar region tinged with red, margined above and below with black and having a median stripe of the same, the chin and throat also with a median black stripe; the remaining feathers of the neck, chest, and breast margined with brownish black, slightly olive on the latter parts, and having a squamate appearance, the side of the neck tinged with red; the feathers of the underparts below the breast and also the under tail-coverts having a central stripe and bars of black: under wing-coverts blackish olive spotted with golden buff and white: "bill black, mandible green-yellow; feet dull brownish green" (*Everett*). "Eyes red" (*J. Murray*). Total length 9·8 inches, culmen 1·6, wing 5·1, tail 2·55, tarsus 1·03; toes (without claws)—outer anterior 0·8, outer posterior 1·12, inner anterior 0·53, inner posterior 0·35.

Young. The male differs from the adult of the same sex in having less red on the feathers of the back, which, together with the scapulars, are more spotted with white, some of these spots being exposed; face duller yellow; chest and upper breast dusky olive, the feathers having close to the tip a large heart-shaped spot of pale golden buff, with a concealed spot of pure white separated from it by a dusky bar. The female has the feathers of the forehead, crown, ciput, and nape olive-golden, with dusky olive bases, the crown-

feathers slightly tinged with red, those of the occiput and nape more so, the whole being covered with small rounded spots of golden white; the chin, throat, and malar region whiter, the latter without any tinge of red.

Hab. The following of the Philippine Islands:—Mindanao (Butuan and Zamboanga), Basilan *, and Negros (Sibulan).

a. ♂ ad. sk.	Zamboanga.	'Challenger' Expedition.
b, *c.* ♂ ad.; *d.* ♀ ad. sk.	Zamboanga, March, May (*A. Everett*).	Tweeddale Coll.
e. ♂ ad. sk.	Butuan, May 1877 (*A. Everett*).	Tweeddale Coll.

8. **Chrysocolaptes rufopunctatus.** (Plate XII.)

Chrysocolaptes lucidus (*non Scop.*), *Tweedd. P. Z. S.* 1878, p. 379; *Wardl.-Ramsay, ed. Tweedd. Mem.* p. 603 (1881).
Chrysocolaptes rufopunctatus, *Hary. Ibis*, 1889, p. 231.

Adult female. Has the back, scapulars, rump, wing-coverts, and outer webs of secondaries crimson, without any admixture of olive-golden; the bases of the rump-feathers blackish brown, without spot; upper tail-coverts brownish black, the lower series unspotted, the outer of the upper series having a subapical buffy-white spot; tail brownish black, the central feathers not margined with golden olive at the base; top of the head and the crest blackish brown slightly tinged with dull red, each feather having a triangular spot of reddish buff close to the tip; face buff and, including the ear-coverts, striped with black; malar region, chin, and throat yellowish white; the black on the feathers of the fore neck, chest, and underparts very intense; bill entirely black. Total length 9·8 inches, culmen 1·68, wing 5·35, tail 2·75, tarsus 1·12; toes (without claws)—outer anterior 0·85, outer posterior 1·08, inner anterior 0·68, inner posterior 0·45.

Hab. The island of Panaon, Philippines.

a. ♀ ad. sk.	Panaon, Philippines, Oct. 1877 (*A. Everett*).	Tweeddale Coll. (Type of species.)

9. **Chrysocolaptes xanthocephalus.**

Chrysocolaptes xanthocephalus, *Wald. & Layard, Ibis*, 1872, p. 99, pl. iv.; *Wald. P. Z. S.* 1873, p. 526; *Sharpe, Trans. Linn. Soc.* 1877, xxx. p. 314; *Gould. B. As.* vi. pl. xxxvii. ♂ ♀ (1877); *Wardl.-Rams. Tweedd. Mem.* pp. 118, 299, 314, 410, 655, 664 (1881).

Adult male. Back, scapulars, rump, and wing-coverts crimson, the margins of the feathers more vermilion, and the bases dusky

* It was in this island that *C. maculiceps* of Sharpe (which I cannot separate from the present species) was obtained by Dr. Steere. I take the bird to be a young female.

brown; upper tail-coverts blackish brown, margined at the tip with dull red; outer webs of primaries brown with more or less of the base dull golden olive, the outer webs of the secondaries deep crimson; inner webs of the quills blackish brown, with large rounded marginal spots of white, those upon the outer primaries being confluent and forming a longitudinal stripe; shafts brown; tail blackish brown, the shafts black; forehead, crown, occiput, and sides of the nape bright crimson, the feathers having black bases and concealed white spots; nasal plumes and face golden yellow, the supercilium striped with black, the malar region dull golden buff; chin, throat, and entire neck and the chest pale golden buff, with a black line bordering the lower part of the jaw, and a median line of black on the chin; the feathers of the throat, fore neck, and sides of the neck partially margined with black, those of the chest entirely so and having a squamate appearance; underparts below the chest, also the upper series of the under tail-coverts, buffy golden yellow, the sides of the body striped with olive-brown, the lower series of under tail-coverts dusky olive; under wing-coverts having yellowish-white centres and olive-dusky margins, the edge of the wing being olive, slightly dusky, and tinged with red. Total length 10 inches, culmen 1·55, wing 5·6, tail 3·15, tarsus 1·07; toes (without claws) —outer anterior 0·76, outer posterior 1, inner anterior 0·67, inner posterior 0·46.

Adult female. Differs from the adult male in having the entire top of the head and the crest golden yellow: "eye white (?); beak and feet horn-colour" (*E. L. Layard*). Total length 11 inches, culmen 1·63, wing 5·83, tail 3·45, tarsus 1·15.

Hab. Island of Negros, Philippines.

a. ♀ ad. sk. Negros, March 1871 (*E. L. Layard*). Tweeddale Coll. (Type of species.)

10. Chrysocolaptes validus.

Picus validus, *Temm. Pl. Col.* 378 ♂, 402 ♀ (1825); *Wagl. Syst. Av.* Picus, sp. 13 (1827); *Drap. Dict. Class. d'Hist. Nat.* xiii. p. 508 (1828); *Cuv. Règne Anim.* 1829, p. 450; *Less. in Bélang. Voy.* p. 242, ♀ (1834); *id. Compl. Buff.* ix. p. 313 (1837); *Eyton, P. Z. S.* 1839, p. 106; *Jerd. B. Ind.* i. p. 283 (1862); *Sundev. Consp. Av. Picin.* p. 7 (1866).

Campephilus validus, *Gray, Gen. B.* ii. p. 436 (1845); *Blyth, Cat. B. Mus. As. Soc.* p. 54, no. 240 (1849); *Gray, List Picid. Brit. Mus.* p. 57 (1868); *id. Hand-l. B.* ii. p. 188, no. 8631 (1870).

Megapicos validus, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 319.

Hemilophus validus, *Bp. Consp. Gen. Av.* i. p. 131 (1850); *Reichenb. Scans. Picinæ*, p. 386, no. 893, pl. dcxliv. figs. 4304–05, ♂ ♀ (1854); *Sclat. P. Z. S.* 1863, p. 6.

Reinwardtipicus validus, *Bp. Consp. Volucr. Zygod.* p. 7, no. 14 (1854); *Gray, Cat. Gen. B. Mus.* 1855, p. 92; *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 650, no. 944 (1856–58); *Moore, P. Z. S.* 1859, p. 455; *Hume, Str. F.* 1879, p. 52.

Megapicus validus, *Malh. Picidæ*, i. p. 28, pl. ix. figs. 5, 6 ♂, 7 ♀ (1861).

Xylolepes validus, *Cab. & Heine, Mus. Hein.* iv. p. 108 (1863); *Salvad. Ucc. Born.* p. 43 (1874); *Sharpe, Ibis*, 1876, p. 36, 1877, p. 9, 1879, p. 240; *id. P. Z. S.* 1879, p. 326; *Salvad. Ann. Mus. Civ. Stor. Nat. Genova*, 1879, p. 181; *Sharpe, P. Z. S.* 1881, p. 792; *Nicholson, Ibis*, 1882, p. 54, 1883, pp. 87, 242; *Blas. Verhandl. k. k. zool.-bot. Gesellsch. Wien*, 1883, p. 27; *Verd. Over. Nat. Tijds. Nederl. Ind.* xliv. p. 191 (1884); *Guillemard, P. Z. S.* 1885, p. 405.

Adult male. Upper back yellowish white, grading into brilliant orange or even scarlet on the lower back and rump; upper tail-coverts brownish black; scapulars, wings and their coverts brownish black, the quills barred with rufous on both webs; tail and the shafts brownish black; nasal plumes golden buff tinged with red; top of the head, occiput, and nape crimson; lores and anterior part of face golden, becoming brown posteriorly and down the side of the neck, the hind neck white; malar region, chin, and upper throat golden yellow more or less washed with red, the latter having a dark median line of brownish red; fore neck and the whole of the under surface of the body crimson, the bases of the feathers olivaceous brown; under tail-coverts of the latter colour, fringed with red; under wing-coverts brownish white with dusky brown transverse spots: "irides light yellow or yellow-ochre colour: legs and feet faded yellow-ochre" (*H. O. Forbes*). Total length 11 inches, culmen 1·8, wing 6·1, tail 3·15, tarsus 1·15; toes (without claws) —outer anterior 0·8, outer posterior 0·88, inner anterior 0·68, inner posterior 0·37.

Very old males have the back and rump extremely red.

Adult female. Differs from the male in having the back and rump white; the head and neck (except the hind neck), as well as the whole of the under surface of the body, being almost entirely drabby brown; the top of the head, occiput, and nape blackish brown; the malar region, chin, and throat dingy white, with a dark brownish median line, the throat and chest slightly fulvescent or rufescent; under tail-coverts dusky brown with greyish tips. Total length 10·5 inches, culmen 1·6, wing 5·8, tail 3·25, tarsus 1·1.

Young. Probably both sexes resemble the adult female, examples (evidently males) just acquiring the red tips to the feathers of the underparts and top of the head are otherwise in the female garb.

Obs. Adult males from Java have the upper parts extremely red, much more so than examples from other localities.

Hab. Java, Borneo, Sumatra, and the Malayan Peninsula, north to the Province of Wellesley.

a, b. ♀ ad. sk.	Ding-Ding River, Feb. 1879 (*W. Davison*).	Hume Coll.
c. ♂ ad. sk.	Klang, Feb. 19, 1879 (*W. Davison*).	Hume Coll.
d. ♀ ad. sk.	Salangore, July 31, 1879 (*W. Davison*).	Hume Coll.

e–h. ♂ ad.; *i–n.* ♀ ad. sk.	Malacca, Jan., July, Aug. (*W. Davison*).	Hume Coll.
o, p. ♂ ♀ ad.; *q.* ♂ juv. sk.	Malacca (*Dr. Cantor*).	India Museum.
r–u. ♂ ad.; *v, w, x.* ♀ ad. sk.	Malacca, Aug. (*R. G. W. R.*).	Tweeddale Coll.
y. ♂ imm. sk.	Pulo Seban, Nov. 12, 1875 (*W. Davison*).	Hume Coll.
z. ♀ ad. sk.	Kuroo, Nov. 5, 1875 (*W. Davison*).	Hume Coll.
a', b', c'. ♂ ad. et imm.; *d', e', f'.* ♀ ad. sk.	Gunnong Pulai, Johore, March, July (*W. Davison*).	Hume Coll.
g'. ♂ ad. sk.	Singapore.	Wallace Coll.
h', i'. ♂ ♀ ad. sk.	Singapore.	Gould Coll.
k'. ♀ ad. sk.	Sumatra.	Wallace Coll.
l'. ♀ ad. sk.	Sumatra (*A. R. Wallace*).	Tweeddale Coll.
m'. ♀ ad. sk.	Sumatra.	Old Collection.
n'–q'. ♀ ad.; *r', s'.* ♂ ad. et imm. sk.	Sumatra, Oct. (*Carl Bock*).	Tweeddale Coll.
t', u'. ♂ ♀ ad. sk.	Borneo.	Rajah Brooke [P.].
v'. ♂ ad.; *w'.* ♂ juv. sk.	Sarawak (*H. Everett*).	Tweeddale Coll.
x'. ♀ ad. sk.	Jambusan, Sarawak.	A. Everett, Esq. [C.].
y'. Skeleton.	Java.	Purchased.

37. CAMPOPHILUS.

	Type.
Campephilus, *Gray, List Gen. Bds.* 1840, p. 54 ..	C. principalis.
Megapicos, *Malh. Mém. Acad. Metz*, 1848–49, p. 317	C. imperialis.
Phlœoceastes, *Cab. J. f. O.* 1862, p. 176	C. robustus.
Cniparchus, *Cab. & Heine, Mus. Hein.* iv. p. 98 (1863)	C. hæmatogaster.
Scapanens, *Cab. & Heine, Mus. Hein.* iv. p. 90 (1863)	C. melanoleucus.

Part of central tail-feather of *Campophilus imperialis* (underside).

Range. Gulf States and Lower Mississippi Valley; Mexico (except the North-east, above Tampico); through Central and South America into the Argentine Republic and Uruguay. Also the island of Cuba.

Key to the Species.

A. With no red on the rump.
  a'. Quills not barred.
    a''. Underparts uniform.
      a'''. Under surface of the body black.
        *a*⁴. Upper parts black.
          *a*⁵. With a white stripe down the side of the neck uniting with the stripe on the side of the mantle; nasal plumes white.
            *a*⁶. The white stripe across the face not extending to the nostril, but stopping below the anterior ear-coverts.
              *a*⁷. Outer edge of crown and elongated occipital crest scarlet ..... *principalis* ♂ ad., p. 464.
              *b*⁷. With no red on the head or crest, these being glossy blue-black..... *principalis* ♀ ad., p. 464.
            *b*⁶. The white stripe across the face extending right up to the nostril.
              *c*⁷. With red occipital crest .. *bairdi* ♂ ad., p. 465.
              *d*⁷. With the crest entirely black *bairdi* ♀ ad., p. 465.
          *b*⁵. With no white stripe down the side of the neck; nasal plumes black.
            *c*⁶. Outer edge of crown and elongated occipital crest scarlet . *imperialis* ♂ ad., p. 466.
            *d*⁶. With no red on the head or crest, these being entirely glossy blue-black..... *imperialis* ♀ ad., p. 466.
        *b*⁴. Upper parts buffy white.
          *c*⁵. Entire head (except auricular black and white spot), chin, and throat crimson ..... *leucopogon* ♂ ad., p. 467.
          *d*⁵. Forehead and elongated coronal feathers black; nasal plumes, anterior part of lores, and the malar region white, almost entirely encircled by black..... *leucopogon* ♀ ad., p. 467.
      b'''. Under surface of the body rufous.
        *c*⁴. Outer webs of quills black.
          *e*⁵. Nasal plumes and malar region red like the rest of the head .. *rubricollis* ♂ ad., p. 468.
          *f*⁵. Nasal plumes, anterior part of lores, and malar region white, almost encircled by black .... *rubricollis* ♀ ad., p. 468.
        *d*⁴. Outer webs of quills rufous on more or less of the base, this on the primaries not being edged externally with black.
          *g*⁵. Entire head (except the auricular spot) and neck crimson ..... *trachelopyrus* ♂ ad., [p. 469.

h^5. Nasal plumes, lores, and malar region white, the feathers covering chin-angle and bordering lower jaw black ..... *trachelopyrus* ♀ ad., [p. 469.

b''. Underparts barred.

c'''. Rump uniform black; with black on the top of the head in the female.

e^4. With white on the face in both sexes, in addition to the auricular spot.

i^5. Orbital region not red anteriorly; underparts buffy cream-colour, narrowly barred with black, the bars being much narrower than the interspaces; bill whitish horny.

e^6. Top of the head, crest, and face crimson, excepting the lores, anterior part of malar region, and the auricular spot ..... *melanoleucus* ♂ ad., p. 470.

f^6. Forehead and elongated sincipital feathers black; malar region and behind it entirely white, this uniting with the white neck-stripe ..... *melanoleucus* ♀ ad., p. 471.

j^5. Eyes entirely surrounded with red; underparts rufescent buff, the black bars nearly equal in width to the interspaces; bill horny-blackish.

g^6. Top of the head, crest and face crimson, excepting the anterior portion of the loral and malar regions, as well as immediately behind the latter, which is white, and the auricular spot ..... *malherbii* ♂ ad., p. 472.

h^6. Forehead and elongated feathers of the sinciput black; the entire malar region white. *malherbii* ♀ ad., p. 472.

f^4. With no clear white on the face in either sex, the lower feathers of the auricular spot being fulvescent or brownish white; bill ivory-white.

k^5. Entire head and crest, chin, and throat crimson ..... *guatemalensis* ♂ ad., [p. 473.

l^5. Forehead and elongated coronal feathers, chin (except at angle), and throat black ..... *guatemalensis* ♀ ad., [p. 474.

d'''. Rump barred black and rufescent buff; with no black on the top of the head in the female; with an indication of a red throat-band in the male.

g^4. Top of the head, crest, and face crimson, with an auricular spot which is brown above and yellowish white below ..... *guayaquilensis* ♂ ad., [p. 475.

h^4. Malar region and immediately behind it white, and uniting with the white neck-stripe ..... *guayaquilensis* ♀ ad., [p. 476.

b'. Quills barred.

c''. Quills barred with white; upper tail-coverts black, contrasting with the light back and rump; bill black.

e'''. Crown and crest scarlet ..... *pollens* ♂ ad., p. 476.

f'''. Crown and crest black ..... *pollens* ♀ ad., p. 477.

d''. Quills barred with rufous; upper tail-coverts uniform buff like the back and rump.

g'''. Nasal plumes and malar region crimson like the rest of the head .. *robustus* ♂ ad., p. 478.

h'''. Nasal plumes, anterior part of lores, and the malar region white, almost encircled by black ..... *robustus* ♀ ad., p. 478.

B. Rump red.

c'. Fore neck in both sexes entirely black like the chin and throat; the barring on the wings white and less broad; bases of the feathers of the hind neck white.

e''. The buff stripe from the lores not reaching beyond the ear-coverts .... *hæmatogaster* ♂ ad., [p. 479.

f''. The buff stripe which crosses the face extending down the side of the neck . *hæmatogaster* ♀ ad., [p. 479.

d'. Fore neck in the adult male entirely crimson, this colour ascending to the posterior part of the malar region and on to it; the barring on the wings yellow and broader; bases of the feathers of the hind neck black.

g''. The buff stripe from the lores not reaching beyond the ear-coverts .... *splendens* ♂ ad., p. 480.

h''. The buff stripe which crosses the face extending down the side of the neck . *splendens* ♀ ad., p. 480.

1. Campophilus principalis.

The Largest White-billed Woodpecker, *Catesb. Nat. Hist. Carol.* i. p. 16, ♂ ad. (1731–43).

Picus principalis, *Linn. Syst. Nat.* i. p. 173 (1766); *Bodd. Tabl. Pl. Enl.* p. 43, no. 690 (1783); *Gm. Syst. Nat.* i. p. 425 (1788); *Lath. Ind. Orn.* i. p. 225 (1790); *Vieill. Ois. Amér. Sept.* ii. p. 56, pl. cix. ♂ (1807); *Wils. Amer. Orn.* iv. p. 20, pl. xxix. fig. 1, ♂ ad. (1811); *Steph. Gen. Zool.* ix. p. 150, pl. xxx. ♂ ad. (1815); *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 76 (1818); *id. & Bonn. Enc. Méth.* iii. p. 1307 (1823); *Bp. Syn.* p. 44 (1826); *Valenc. Dict. Sc. Nat.* xl. p. 177 (1826); *Wagl. Syst. Av.* Picus, sp. 1 (1827); *Drap. Dict. Class.* xiii. p. 495 (1828); *Less. Traité*, i. p. 229 (1831);

Swains. Faun. Bor.-Amer., Birds, ii. p. 301 (1831); *Aud. Orn. Biogr.* i. p. 341 (1831); *Nutt. Man. Orn.* i. p. 564 (1832); *Jard. ed. Wils. & Bp. Amer. Orn.* ii. p. 8, pl. xxix. fig. 1, ♂ ad. (1832); *Swains. Classif. B.* ii. p. 306 (1837); *Aud. Orn. Biogr.* v. App. p. 525, pl. lxvi. figs. 1 ♂ ad., 2, 3 ♀ ad. (1839); *id. Syn. B. N. Amer.* p. 175, no. 257 (1839); *id. B. N. Amer.* 8vo, iv. p. 214, pl. cclvi., ♂ ♀ ♀ ad. (1839); *Sundev. Consp. Av. Picin.* p. 4 (1866).

Dryocopus principalis, *Boie, Isis*, 1828, p. 326; *Bp. Consp. Gen. Av.* i. p. 132 (1850).

Dendrocopus principalis, *Bp. Comp. List B. Eur. & N. Amer.* p. 39, no. 251 (1838).

Campephilus principalis, *Gray, List Gen.* 1840, p. 54, 1841, p. 70; *id. Gen. B.* ii. p. 436 (1845); *Reichenb. Scans. Picinæ*, p. 390, no. 898, pl. dcxlvi. figs. 4315–16, ♂ ♀ (1854); *Baird, B. N. Am.* p. 81 (1858); *Cav.-Tayl. Ibis*, 1862, p. 128; *Dress. op. cit.* 1865, p. 468; *Gray, List Picid. Brit. Mus.* p. 53 (1868); *id. Hand-l. B.* ii. p. 187, no. 8620 (1870); *Ridgw. Am. Lyc. N. York*, 1874, p. 377; *Mayn. Bds. E. N. Amer.* p. 237, pl. xix. (1879); *Ridgw. Proc. U.S. Nat. Mus.* 1880, p. 188; *Coues, Check-list N. Amer. B.* 2nd ed. 1882, p. 76; *id. Key N. Amer. B.* 2nd ed. p. 479, pl. p. 478, fig. 329 (1884); *A.O.U. Check-list N. Amer. B.* p. 210 (1886); *Ridgw. Man. N. Amer. B.* p. 281 (1887); *Scott, Auk*, 1889, p. 251.

Megapicos principalis, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 318.

Megapicus principalis, *Bp. Consp. Volucr. Zygod.* p. 7, no. 2 (1854); *Malh. Picidæ*, i. p. 4, pl. i. figs. 4, 5, ♂ ♀ ad. (1861).

Campophilus principalis, *Cab. & Heine, Mus. Hein.* iv. p. 100 (1863).

Adult male. Plumage black glossed with greenish blue, with the following exceptions:—a patch of brilliant scarlet arising above the posterior part of the eye, bordering the ear-coverts, and above running parallel with the elongated coronal feathers and covering the occiput and nape, the occipital feathers very much elongated, but rather shorter than the black feathers above; the feathers composing this patch having the extreme base black, with an intermediate spot of white; nasal plumes and a line thence to the gape white; a white line from under the ear-coverts running down the side of the neck and of the back, but not uniting with the corresponding stripe; the exposed portion of the secondaries white; the innermost primaries having the tip of the outer web and a large marginal patch on the apical portion of the inner web white; under wing-coverts and axillaries white, and on the side of the breast a patch of white concealed by the closed wings; shafts of the quills and of the tail-feathers black, except on the white portion of the primaries and secondaries, on this the shafts being white. Total length 19 inches, culmen 2·85, wing 10·1, tail 6·25, tarsus 1·8; toes (without claws)—outer anterior 1·25, outer posterior 1·55, inner anterior 1·17, inner posterior 0·85.

Adult female. Differs from the adult male in wanting the red on the head, those parts which are of this colour in the male being of

a deep blue-black in the present sex. Total length 18·5 inches, culmen 2·7, wing 10·1, tail 6·2, tarsus 1·7.

Hab. Gulf States and Lower Mississippi Valley.

a. ♂ ad. sk.	N. America.	General Hardwicke.
b. ♂ ad. sk.	Florida (*E. R. Same, Hensh. Coll.*).	Salvin-Godman Coll.
c–g. ♂ ♀ ad. sk.	De Soto County, Florida, Feb., May, Dec. (*W. E. D. Scott*).	Salvin-Godman Coll.
h. ♀ ad. sk.	Argo, Florida, Mar. (*W. E. D. S.*).	Salvin-Godman Coll.
i. ♀ pull. sk.	Tarpon Springs, Florida, Mar. (*W. E. D. S.*).	Salvin-Godman Coll.

2. Campophilus bairdi.

Picus principalis (*non Linn.*), *Ramon de la Sagra, Hist. Fis. &c. Isl. Cuba*, ii. p. 107 (1838); *d'Orb. in Sagra's Hist. Phys. &c. Isl. Cuba*, p. 140 (1839); *Lembeye, Av. Isl. Cuba*, p. 131 (1850).

Campephilus principalis (*non Linn.*), *Cab. J. f. O.* 1856, p. 102; *Cory, List B. W. Ind.* p. 19 (1885).

Campephilus bairdii, *Cass. Proc. Acad. Philad.* 1863, p. 322; *Gray, List Picid. Brit. Mus.* p. 53 (1868); *id. Hand-l. B.* ii. p. 187, no. 8622 (1870); *Gundl. Contr. Orn. Cuba*, pp. 113, 273 (1876).

Picus principalis, var. *b*, *Sundev. Consp. Av. Picin.* p. 5 (1866).

Picus bairdi (pt.), *Gieb. Thes. Orn.* iii. p. 144 (1876).

Campephilus principalis bairdi, *Cory, Auk*, 1886, p. 373; *Ridgw. Man. N. Amer. B.* p. 281 (1887).

Adult male. Resembles *C. principalis* in having white nasal tufts and a white neck-stripe, but differs in the latter being continued to the base of the bill; the black feathers of the crown not reaching to the tip of the scarlet crest.

Adult female. Differs from the adult male in having the crest entirely glossy blue-black.

Never having seen this species, I have extracted the above descriptions from Ridgway's Manual. The measurements are given as follows:—Wing 9·50–9·70, tail 6·50–7·00, exposed culmen 2·30–2·40. Cassin, in his original description of the present bird, states the length to be about 18½ inches. This author's observation that the black anterior feathers of the crest are longer than those succeeding, which are scarlet, is, however, at variance with Dr. Ridgway's statement.

Hab. Cuba.

3. Campophilus imperialis.

Picus imperialis, *Gould, P. Z. S.* 1832, p. 140; *Less. Compl. Buff.* ix. p. 317 (1837); *Aud. Orn. Biogr.* v. p. 313 (1839); *id. Syn. B. N. Amer.* p. 175 (1839); *id. B. N. Amer.* 8vo, iv. p. 213 (1839); *Sundev. Consp. Av. Picin.* p. 4 (1866).

Campephilus imperialis, *Gray, Gen. B.* ii. p. 436 (1845); *Reichenb. Scans. Picinæ*, p. 390, no. 897, pl. dcxlvi. fig. 4314, ♂ (1854); *Baird, B. N. Amer.* p. 82 (1858); *Gray, List Picid. Brit. Mus.* p. 53 (1868); *id. Hand-l. B.* ii. p. 187, no. 8621 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 98 (1873); *Ridgw. Auk*, 1887, p. 161; *id. Man. N. Amer. B.* p. 281 (1887).

Megapicos imperialis, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 318.
Dryocopus imperialis, *Bp. Consp. Gen. Av.* i. p. 132 (1850).
Megapicus imperialis, *Bp. Consp. Volucr. Zygod.* p. 7, no. 1 (1854); *Malh. Picidæ*, i. p. 2, pl. i. figs. 1, 2, ♂ ♀ ad., 3 bill of ♀ (1861).
Dryotomus imperialis, *Cass. Ill. B. Calif.* p. 285, pl. xlix., ♂ ad. (1855).
Campophilus imperialis, *Cab. & Heine, Mus. Hein.* iv. p. 101 (1863).

Adult male. Resembles *C. principalis*, but may be distinguished by its black nasal plumes and in having the head and neck devoid of any white stripe, the red crest much exceeding the elongated black crown-feathers, a greater number of the inner secondaries tipped with white, and this much more extended on these feathers; the dimensions are also very much greater. Total length 22 inches, culmen 3·5, wing 12, tail 7·8, tarsus 1·9; toes (without claws)—outer anterior 1·42, outer posterior 1·7, inner anterior 1·1, inner posterior 0·8.

Adult female. Has no red upon the head, this as well as the crest being entirely blue-black, and the latter very long and curled upwards at the tip. In other respects the two sexes are alike. Total length 21 inches, culmen 3·1, wing 12, tail 7·8, tarsus 1·9.

Hab. Western Mexico, south to Ciudad Durango, north along the Sierra Madre to within 50 miles of the Arizona boundary.

a. ♀ ad. st.	Mexico.	Zoological Society.
b. ♂ ad. st.	Mexico.	
c. ♂ ad. sk.	Mexico.	Gould Coll.
d, e. ♂ ♀ ad. sk.	Mexico.	Salvin-Godman Coll. (Types of the species.)
f, g. ♂ ♀ ad. sk.	Ciudad Durango, Jan. (*A. Forrer*).	Salvin-Godman Coll.
h. ♀ skeleton.	Ciudad Durango.	A. Forrer [C.].

4. Campophilus leucopogon *.

Picus leucopogon, *Valenc. Dict. Sc. Nat.* xl. p. 178, ♀ (1826).
Picus boiei, *Wagl. Syst. Av.* Picus, sp. 3, ♀ (1827); *Sundev. Consp. Av. Picin.* p. 6 (1866).
Picus boieri, *Less. Traité*, i. p. 225 (1831).
Picus atriventris, *d'Orb. Voy. Amér. Mérid., Ois.* iv. p. 378, pl. lxiii. fig. 1, ♂ ad. (1835–44).
Campephilus boiei, *Gray, Gen. B.* ii. p. 436 (1845); *Bp. Consp. Volucr. Zygod.* p. 7, no. 12 (1854); *Reichenb. Scans. Picinæ*, p. 394, no. 913, pl. dcl. fig. 4338, ♂ (1854); *Gray, List Picid. Brit. Mus.* p. 56 (1868); *id. Hand-l. B.* ii. p. 187, no. 8629 (1870); *Lee, Ibis*, 1873, p. 133; *Sclat. & Salv. Nomencl. Av. Neotr.* p. 98 (1873); *Durnf. Ibis*, 1877, p. 185; *Sclat. & Salv. P. Z. S.* 1879, p. 63; *Salv. Ibis*, 1880, p. 360; *White, P. Z. S.* 1882, p. 617; *Barrows, Auk*, 1884, p. 25; *Sclat. & Huds. Arg. Orn.* ii. p. 17 (1889).

* Valenciennes's title has priority, and in addition to this his description of the species is correct, whereas Wagler's description of his *P. boiei* does not correspond with the type which is in the Paris Museum.

Picus corrientes, *Gray, Gen. B.* iii. App. p. 21 (1849).
Dryocopus boiei, *Bp. Consp. Gen. Av.* i. p. 134, ♀ only (1850).
Dryocopus atriventris, *Burm. J. f. O.* 1860, p. 244; *id. Reise La-Plata-St.* ii. p. 444 (1861).
Megapicus boiei, *Malh. Picidæ*, i. p. 10, pl. iii. figs. 1, 2, ♂ ♀ ad. (1861).
Phlœoceastes boiei, *Cab. & Heine, Mus. Hein.* iv. p. 97 (1863).
Dendrocopus atriventris, *White, Cam. Silv.-Land*, ii. pp. 247, 307 (1882).

Adult male *. Upper and middle back uniform buffy white, the remainder of the upper parts, the wings and tail, as well as their coverts, the whole of the underparts and under tail-coverts, axillaries and under wing-coverts black, except the inner webs of the primaries on more or less of their length and the inner portion of the outer webs of these feathers, at the base, which are rufous, the inner webs of the secondaries having a basal spot of rufous; shafts of quills ochreous yellow on the rufous web, but otherwise black, the shafts of the tail-feathers black; nasal plumes, entire head, chin, throat, and fore neck crimson, with a spot (the upper part black, the lower part white) over the ears; sides of the neck and hind neck black, the feathers lining the edge of the wing below rufescent buff, with a black spot or patch where they cover the bases of the primaries. Total length 12 inches, culmen 1·95, wing 7·15, tail 3 95, tarsus 1·32; toes (without claws)—outer anterior 0·93, outer posterior 1·06, inner anterior 0·8, inner posterior 0·6.

Adult female. Differs from the adult male in having the forehead, crown, space in front of and under the eye, a line on the lower part of the malar region, and the chin black; the nasal plumes and a stripe uniting with the white of the lower ear-coverts, also the malar region, white. Total length 11·5 inches, culmen 1·72, wing 6·8, tail 3·8, tarsus 1 25.

Hab. Bolivia; Argentine Republic, south into the Province of Buenos Ayres; Lower Uruguay; Southern Brazil, probably only in the part adjacent to the above countries.

a. ♂ ad. st.	South America.	E. Wilson, Esq. [P.].
b. ♀ ad. sk.	Bolivia.	T. Bridges [C.].
c. ♂ ad. sk.	Carrapari, Bolivia, May (*R. Pearce*).	Salvin-Godman Coll.
d, e. ♂ ad. sk.	Salta, Arg. Rep., June.	H. Durnford, Esq. [C.].
f. ♂ ad. sk.	Salta (*E. W. White*).	Sclater Coll.
g. ♀ ad. sk.	Gualeguaychu.	Sclater Coll.
h. ♂ ad. sk.	Uruguay.	Alan Peel, Esq. [C.].

5. Campophilus rubricollis.

Grand pic huppé à la tête rouge de Cayenne, *Daubent. Pl. Enl.* 612, ♀.
Picus rubricollis, *Bodd. Tabl. Pl. Enl.* p. 37, no. 612 (1783); *Gm.*

* Mr. W. B. Lee (Ibis, 1873, p. 134) states that he found on dissection that it is the female which has the head entirely red. There must surely be some mistake.

Syst. Nat. i. p. 426 (1788); *Lath. Ind. Orn.* i. p. 226 (1790); *Steph. Gen. Zool.* ix. p. 159 (1815); *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 71 (1818); *id. & Bonn. Enc. Méth.* iii. p. 1306 (1823); *Bp. Journ. Acad. Nat. Sc. Philad.* v. p. 137 (1825); *Wagl. Syst. Av.* Picus, sp. 12, ♀ (1827); *id. Isis*, 1829, p. 509; *Less. Traité*, i. p. 225, ♀ (1831); *Sundev. Consp. Av. Picin.* p. 6 (1866).

Campephilus rubricollis, *Gray, Gen. B.* ii. p. 436 (1845); *Cab. in Schomb. Reis. Guian.* iii. p. 716 (1848); *Reichenb. Scans. Picinæ*, p. 395, no. 915, pl. dcli. figs. 4341–42, ♀ ♀ (1854); *Bp. Consp. Volucr. Zygod.* p. 7, no. 13 (1854); *Sclat. Cat. Amer. B.* p. 332, no. 1978 (1862); *Gray, List Picid. Brit. Mus.* p. 56 (1868); *id. Hand-l. B.* ii. p. 187, no. 8628 (1870); *Pelz. Orn. Bras.* p. 242 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 98 (1873); *Salv. Ibis*, 1886, p. 58.

Dryocopus rubricollis, *Bp. Consp. Gen. Av.* i. p. 134 (1850).

Megapicus rubricollis, *Malh. Picidæ*, i. p. 25, pl. viii. figs. 6, 7, ♂ ♀ ad. (1861).

Phlœoceastes rubricollis, *Cab. J. f. O.* 1862, p. 176; *id. & Heine, Mus. Hein.* iv. p. 96 (1863).

Adult male. Back, scapulars, rump, and upper tail-coverts, wing-coverts, outer webs of the quills and the apical portion (more or less) of the inner webs brownish black, the remaining portion of the inner webs of the quills being rufous, this colour on most of the primaries occupying two thirds of their length and decreasing in extent upon the secondaries, the innermost of all having only a small spot of dusky rufous at the base, and this confined to the margin; at the base of the quills the outer webs are more or less striped with rufous next to the shaft; shafts of quills orange-red upon the rufous web and black upon the remaining part; tail-feathers and the shafts black; nasal plumes and entire head and neck crimson, with a small spot (the upper half dusky brown, the lower half buffy white) on the auricular region; entire underparts and under tail-coverts, under wing-coverts and axillaries rich rufous, the feathers of the chest more or less tipped with crimson. Total length 13 inches, culmen 1·85, wing 7·4, tail 4·6, tarsus 1·45; toes (without claws)—outer anterior 0·9, outer posterior 1·22, inner anterior 0·7, inner posterior 0·55.

Adult female. Differs from the adult male in having the nasal plumes, lores, space under the eye, and the malar region buffy white, and uniting with the bristly white feathers covering the ears; at the base of the forehead, and along the upper edge of this white patch, a black line; the feathers covering the chin-angle and a line separating the white malar region from the red throat also black. Total length 12·5 inches, culmen 1·75, wing 7·15, tail 4·35, tarsus 1·4.

Hab. Guiana, and south-west through the Upper Amazon Region (between Barra do Rio Negro and Marabitanas) into Eastern Ecuador.

a. ♀ ad. sk.	S. America.	Sclater Coll.
b. ♂ ad. sk.	Guiana (*Brown*).	Sclater Coll.
c. ♀ ad. sk.	Oyapock, Cayenne.	Salvin-Godman Coll

d, e. ♂ ♀ ad. sk.	Bartica Grove, British Guiana, Oct., Nov. (*H. Whitely*).	Salvin-Godman Coll.
f. ♂ imm. sk.	Maroni R., Surinam (*Kappler*).	Salvin-Godman Coll.
g. ♀ ad. sk.	Sarayacu, Ecuador (*C. Buckley*).	Salvin-Godman Coll.
h. ♂ ad. sk.	San José, Ecuador (*C. Buckley*).	Salvin-Godman Coll.

6. Campophilus trachelopyrus.

Megapicus trachelopyrus, *Malh. Mém. Soc. Hist. Nat. Moselle*, 1857, p. 1; *id. Picidæ*, i. p. 26, pl. viii. figs. 2♂, 3♀ ad. (1861).
Campephilus trachelopyrus, *Sclat. Cat. Amer. B.* p. 332, no. 1979 (1862); *id. & Salv. P. Z. S.* 1867, pp. 586, 595, 753; *Pelz. Orn. Bras.* p. 242 (1870); *Sclat. & Salv. P. Z. S.* 1873, p. 291; *id. Nomencl. Av. Neotr.* p. 98 (1873); *Layard, Ibis*, 1873, p. 350; *Sclat. & Salv. P. Z. S.* 1879, p. 631; *Tacz. Orn. Pérou*, iii. p. 73 (1886).
Dryocopus trachelopyrus, *Sclat. & Salv. P. Z. S.* 1869, p. 598.
Campephilus rubricollis (*non Bodd.*), *Tacz. P. Z. S.* 1874, p. 546.

Adult male. Back, rump, upper tail-coverts, scapulars, and wing-coverts black; primaries, except the bastard one, rufous on more or less of the basal half, *not* externally margined with black, the secondaries on more or less of the base rufous, externally margined with black, the remaining portion of the quills and the whole of the inner secondaries black; shafts blackish brown on the black webs, orange on the rufous webs; tail and tail-shafts black; entire head and neck crimson, with a spot (the upper half black, the lower half white) on the auricular region; the whole of the underparts and under tail-coverts rufous, the feathers of the chest and breast more or less tipped with crimson; under wing-coverts rufous: "beak almost white; legs verditer; iris yellow" (*E. L. Layard*). Total length 13·5 inches, culmen 1·9, wing 7·3, tail 4·1, tarsus 1·45; toes (without claws)—outer anterior 1, outer posterior 1·3, inner anterior 0·8, inner posterior 0·6.

Adult female. Differs from the adult male in having the nasal plumes, lores, and malar region white; the feathers covering the chin-angle and bordering the lower jaw black. Total length 13·5 inches, culmen 1·75, wing 7·2, tail 4·6, tarsus 1·25.

Hab. Lower and Upper Amazonian regions, from Para (Capim River) into Northern and Central Peru; Northern Bolivia and South Matto Grosso.

a. ♀ ad. sk.	S. America.	R. Graham, Esq. [P.].
b. ♀ ad. sk.	Brazil (*A. R. Wallace*).	Salvin-Godman Coll.
c. ♀ ad. sk.	Para, Lower Amazons (*A. R. Wallace*).	Salvin-Godman Coll.
d. ♂ ad. sk.	Para, Feb. (*E. L. Layard*).	Tweeddale Coll.
e, f. ♂ ♀ ad. sk.	Capim River (*A. R. Wallace*).	Sclater Coll.
g. ♂ ad. sk.	Maranham, N. Brazil (*R. Wendeborn*).	Salvin-Godman Coll.
h. ♂ ad. sk.	Yurimaguas, E. Peru (*E. Bartlett*).	Salvin-Godman Coll.

i. ♂ ad. sk.	Cosnipata, Peru, Oct. (*H. Whitely*).	Tweeddale Coll.
k. ♂ ad. sk.	Bolivia.	T. Bridges [C.].
l. ♂ imm. sk.	Bolivia.	Sclater Coll.
m. ♂ ad. sk.	Apollo, Bolivia (*C. Buckley*).	Salvin-Godman Coll.
n. ♀ ad. sk.	Tilotilo, Prov. Yungas, Bolivia (*C. Buckley*).	Salvin-Godman Coll.
o, p. ♂ ♀ ad. sk.	Chapada, Matto Grosso, May, Dec. (*H. H. Smith*).	Salvin-Godman Coll.

7. Campophilus melanoleucus.

Buff-crested Woodpecker, *Lath. Gen. Syn.* ii. p. 558, pl. xxv. ♀ (1782).

Picus melanoleucos, *Gm. Syst. Nat.* i. p. 426 (1788); *Lath. Ind. Orn.* i. p. 226 (1790).

Carpintero lomo blanco, *Azara, Apunt. Hist. Nat. Páxar. Parag.* ii. p. 297, no. 249 (1805).

Picus melanoleucus, *Steph. Gen. Zool.* ix. p. 155, pl. xxxi. (1815); *Lath. Gen. Hist. B.* iii. p. 373, pl. lix. ♀ad. (1822); *Sundev. Consp. Av. Picin.* p. 5 (1866); *Finsch, P. Z. S.* 1870, p. 586.

Picus albirostris, *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 69, ♂ (1818); *id. & Bonn. Enc. Méth.* iii. p. 1304 (1823); *Spix, Av. Bras.* i. p. 56, pl. xlv. figs. 1, 2, ♂ ♀ (1824); *Wagl. Syst. Av.* Picus, sp. 9 (1827); *id. Isis*, 1829, p. 509; *Tsch. Av. Consp. Rep. Peruan. in Arch. für Naturg.* 1844, p. 302; *Cab. in Tschudi's Faun. Peruan., Aves*, p. 43 (1845–46).

Dryocopus albirostris, *Boie, Isis*, 1828, p. 326; *Gray, Gen. B.* ii. p. 436 (1845); *Hartl. Ind. Azara*, p. 16 (1847); *Cab. in Schomb. Reis. Guian.* iii. p. 716 (1848); *Bp. Consp. Gen. Av.* i. p. 132 (1850); *Burm. Th. Bras.* ii. p. 221 (1856); *Léot. Ois. Trinid.* p. 336 (1866).

Picus comatus, *Neuwied, Beitr. Naturg. Bras.* iv. p. 393 (1832).

Megapicos albirostris, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 319.

Campephilus albirostris, *Reichenb. Scans. Picinæ*, p. 392, no. 905, pl. dcxlviii. fig. 4326, ♂ (1854); *Sclat. Cat. Amer. B.* p. 331, p 1974 (1862); *id. & Salv. P. Z. S.* 1866, p. 196, 1867, pp. 586, 595, 753, 1873, pp. 186, 291.

Dryocopus comatus, *Licht. Nomencl. Av.* p. 75 (1854).

Dryotomus albirostris, *Bp. Consp. Volucr. Zygod.* p. 7, no. 5 (1854).

Megapicus albirostris, *Malh. Picidæ*, i. p. 17, pl. iv. figs. 1, 3, ♂ ♀ ad. (1861).

Phlœoceastes albirostris, *Cab. J. f. O.* 1862, p. 176.

Scapaneus melanoleucus, *Cab. & Heine, Mus. Hein.* iv. p. 90 (1863).

Campephilus melanoleucus, *Gray, List Picid. Brit. Mus.* p. 55 (1868); *id. Hand-l. B.* ii. p. 187, no. 8625 (1870); *Pelz. Orn. Bras.* p. 242 (1870); *id. Ibis*, 1873, p. 33; *Sclat. & Salv. Nomencl. Av. Neotr.* p. 98 (1873); *Tacz. P. Z. S.* 1874, p. 546, 1879, p. 240; *id. Orn. Pérou*, iii. p. 71 (1886); *Salv. Ibis*, 1886, p. 58.

Adult male. Above, including the wings and tail, as well as their coverts, black, and down each side of the upper part of the back a broad white stripe, the two uniting in the middle of the back, some of the lower feathers with bar-like spots of black, the inner webs of the quills having at their base a marginal patch of white; shafts of quills and of tail-feathers black; nasal plumes, entire lores,

and the anterior part of the malar region buffy white; the remainder of the face and the whole of the top of the head and crest crimson, with a spot (the upper half black, the lower half buffy white) covering the ears, and a narrow line of black separating the loral region and nasal plumes from the red of the forehead; chin, throat, and neck black, with a white stripe down the side of the latter uniting with the white on the back, and a branch from it extending as far as the chest; entire underparts and under tail-coverts buffy or brownish white, barred with black, the chest more broadly barred, and sometimes almost entirely black; under wing-coverts and axillaries uniform white with a slight yellow tinge. Total length 13·5 inches, culmen 1·8, wing 7·65, tail 4·25, tarsus 1·4; toes (without claws)—outer anterior 1·02, outer posterior 1·28, inner anterior 0·85, inner posterior 0·63.

Adult female. Differs from the adult male in having the forehead and central elongated feathers of the crown blue-black; the space below the eye black, this being continued in a narrow line backwards and uniting with the upper ear-coverts, which are black; the malar region and as high up as the black line, the lower half of the ear-coverts, and the feathers immediately behind them white, and uniting with the white stripe which runs down the side of the neck. Total length 13·5 inches, culmen 1·88, wing 7·5, tail 4·25, tarsus 1·23.

Hab. Guiana, north into the island of Trinidad; Brazil, west of the Rio Tocantins, extending south-east to Rio Janeiro, and ranging into Bahia; westward into Colombia (Bogotá), Ecuador, and Peru, south to Monterico.

a. ♂ ad.; *b, c.* ♀ ad. sk.	New Granada.	Purchased.
d. ♀ ad. sk.	Bogotá.	Tweeddale Coll.
e, f. ♂ ♀ ad. sk.	Bogotá.	Sclater Coll.
g. ♂ ad. sk.	Venezuela.	Tweeddale Coll.
h. ♂ ad. sk.	San Esteban, Venezuela, May (*A. Goering*).	Tweeddale Coll.
i. ♂ ad. sk.	Trinidad.	Zoological Society.
k. ♀ ad. sk.	British Guiana.	Zoological Society.
l. ♂ ad. sk.	Bartica Grove, British Guiana, Dec. (*H. Whitely*).	Salvin-Godman Coll.
m, n. ♂ ♀ ad. sk.	Takutu R., British Guiana, Feb. (*H. Whitely*).	Salvin-Godman Coll.
o. ♀ ad. sk.	Cayenne.	Purchased.
p. ♀ ad. sk.	Cayenne.	Tweeddale Coll.
q. ♀ ad. sk.	Rio Tocantins, Brazil, Sept. (*A. R. Wallace*).	Salvin-Godman Coll.
r. ♂ imm. sk.	Sarayacu, Ecuador (*C. Buckley*).	Salvin-Godman Coll.
s, t. ♂ ♀ ad. sk.	Yquitos, Peru, Aug. (*H. Whitely*).	Salvin-Godman Coll.
u. ♀ ad. sk.	Sarayacu, Peru (*H. Whitely*).	Sclater Coll.
v, w. ♂ ♀ imm. sk.	Elvira, E. Peru (*J. Hauxwell*).	Salvin-Godman Coll.
x ♂ ad. sk.	Peru (*C. Barclay*).	Salvin-Godman Coll.
y. ♀ ad. sk.	Chapada, Matto Grosso, Dec. (*H. H. Smith*).	Salvin-Godman Coll.

a. ♂ ad.; *a'*, *b'*. ♀ ad. sk.	Bahia, Brazil (*Dr. Wucherer*).	Salvin-Godman Coll.
c'. ♀ ad. sk.	South America.	J. Gould, Esq.

8. **Campophilus malherbii.**

Campephilus malherbii, *Gray, Gen. B.* ii. p. 436, pl. cviii. ♂ ad. (1845); *Reichenb. Scans. Piciuæ*, p. 392, no. 903, pl. dcxlviii. figs. 4323–24, ♂ ♀, 4325 ♂ (1854); *Sclat. Cat. Amer. B.* p. 331, no. 1973 (1862); *id. & Salv. P. Z. S.* 1864, p. 366; *Salv. op. cit.* 1867, p. 157; *Sclat. op. cit.* 1868, p. 629; *Gray, List Picid. Brit. Mus.* p. 54 (1868); *id. Hand-l. B.* ii. p. 187, no. 8623 (1870); *Salv. P. Z. S.* 1870, p. 212; *Wyatt, Ibis*, 1871, p. 380; *Sclat. & Salv. Nomencl. Av. Neotr.* p. 98 (1873); *iid. P. Z. S.* 1875, p. 235, 1879, p. 532; *Salv. & Godm. Ibis*, 1879, p. 205.

Picus anais, *Less. Descr. Mamm. & Ois. réc. découv.* p. 203, ♀ (1847).

Megapicos malherbii, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 319.

Megapicus malherbii, *Malh. Bull. Soc. Hist. Nat. Metz*, 1849, p. 17; *id. Picidæ*, i. p. 15, pl. vi. figs. 1, 2, 4, ♂ ♀ ad., ♀ juv. (1861).

Dryocopus pollens, *Bp. Consp. Gen. Av.* i. p. 133 (1850), pt.; *Sclat. P. Z. S.* 1855, p. 161.

Dryotomus malherbii, *Bp. Consp. Volucr. Zygod.* p. 7, no. 8 (1854).

Dryotomus verreauxi, *Bp. Notes Orn. Collect. Delattr.* p. 85, note (1854).

Scapeneus malherbei, *Cab. & Heine, Mus. Hein.* iv. p. 93 (1863).

Picus malherbei, *Sundev. Consp. Av. Picin.* p. 5 (1866).

Adult male. Differs from *C. melanoleucus* in having the posterior part of the loral region red, this colour entirely surrounding the eye; the under surface of the body much more rufescent; the lower feathers of the black stripe down the middle of the upper back barred with buff; the primaries tipped with brownish white; the bill blacker and much more powerful. Total length 13·5 inches, culmen 2·05, wing 7·65, tail 4·6, tarsus 1·42; toes (without claws) —outer anterior 0·9, outer posterior 1·3, inner anterior 0·8, inner posterior 0·6.

Adult female. Differs from the adult male in having the forehead and the central and elongated feathers of the crown black; the whole of the malar region white, this forming a broad stripe which includes the lower half of the ear-coverts and unites with the white stripe down the side of the neck. Total length 13·5 inches, culmen 1·9, wing 7·25, tail 4·5, tarsus 1·4.

Young female. Differs from the adult of the same sex in having the eye encircled by black, and a broad black stripe behind it including the upper ear-coverts and running on to the hind neck, this being separated from the red occiput and nape by a buffy-white stripe; the red on the head more scarlet and confined to the occiput and nape; the underparts duller, and the bars less deep black.

Hab. U.S. Colombia, north to Veragua; and Western Venezuela.

a. ♀ ad. sk.	[Mexico.]	Purchased.
b. ♂ imm. sk.	Carthagena.	Purchased.
c. ♂ ad. sk.	Calovevora, Veragua (*E. Arcé*).	Salvin-Godman Coll.

d. ♀ ad. sk.	Cordillera de Tolé, Veragua (*E. Arcé*).	Salvin-Godman Coll.
e. ♀ ad. sk.	Santiago de Veraguas.	Salvin-Godman Coll.
f. ♂ ad. sk.	Chiriqui, Veragua.	Capts. Kellett & Wood [P.].
g. ♂ ad. sk.	Panama (*J. McLeanan*).	Sclater Coll.
h. ♂ ad.; *i.* ♀ juv. sk.	Lion Hill Station, Panama (*J. McLeannan*).	Salvin-Godman Coll.
k. ♂ ad. sk.	Cauca, U.S. Colombia (*T. K. Salmon*).	Salvin-Godman Coll.
l. ♂ ad. sk.	Atanques, Santa Marta, Colombia (*F. Simons*).	Salvin-Godman Coll.
m. ♀ ad. sk.	New Granada.	Salvin-Godman Coll.
n. ♂ ad. sk.	Bogotá.	Tweeddale Coll.
o. ♀ ad. sk.	Bogotá.	Sclater Coll.
p, q. ♂ ♀ ad. st.	Bogotá.	Purchased.
r. ♀ ad. sk.	(?)	M. Malherbe.

9. Campophilus guatemalensis.

Picus guatimalensis, *Hartl. Rev. Zool.* 1844, p. 214, ♀; *Sundev. Consp. Av. Picin.* p. 5 (1866); *Gieb. Thes. Orn.* iii. p. 156 (1876).

Campephilus guatemalensis, *Gray, Gen. B.* ii. p. 436 (1845); *Reichenb. Scans. Picinæ*, p. 392, no. 904 (1854); *Gray, Cat. Gen. Brit. Mus.* 1855, p. 92; *Sclat. Cat. Amer. B.* p. 331, no. 1975 (1862); *id. P. Z. S.* 1864, p. 177; *Salv. op. cit.* 1867, p. 157; *Lawr. Ann. Lyc. Nat. Hist. N. York*, 1868, p. 130; *Gray, List Picid. Brit. Mus.* p. 57 (1868); *id. Hand-l. B.* ii. p. 187, no. 8630 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 98 (1873); *Lawr. Bull. U.S. Nat. Mus.* iv. 1876, p. 34; *Zeled. Cat. Av. Costa Rica*, 1882, p. 23; *Nutting, Proc. U.S. Nat. Mus.* 1882, p. 398, 1883, pp. 387, 406; *Boucard, P. Z. S.* 1883, p. 452; *Ferrari-Perez, Proc. U.S. Nat. Mus.* 1886, p. 158.

Picus lessonii, *Less. Écho Mond. Sav.* 1845, p. 920 (♂ ad.); *id. Descr. Mamm. Ois. &c. réc. découv.* 1847, p. 203 (♂ ad.).

Dryocopus guatimalensis, *Bp. Consp. Gen. Av.* i. p. 133, ♂ (1850); *Sclat. P. Z. S.* 1857, p. 229, 1858, p. 359, 1859, pp. 367, 388; *id. & Salv. Ibis*, 1859, p. 135; *Cav.-Tayl. op. cit.* 1860, p. 119.

Dryotomus odoardus, *Bp. Notes Orn. Collect. Delattr.* pp. 85, 86 (1854).

Dryocopus regius, *Licht. Nomencl. Av.* p. 75 (1854).

Campephilus regius, *Reichenb. Scans. Picinæ*, p. 393, no. 908, pl. dcxlix. figs. 4331–32, ♂ ♂ (1854).

Dryotomus guatemalensis, *Bp. Consp. Volucr. Zygod.* p. 7, no. 4 (1854).

Driopicus regius, *Bp. Consp. Volucr. Zygod.* p. 8, no. 25 (1854).

Dryocopus erythrops (*non Valenc.*), *Sclat. P. Z. S.* 1856, p. 306.

Megapicus guatemalensis, *Malh. Picidæ*, i. p. 19, pl. vii. figs. 1, 5 ♂ ad., 2, 3 ♀ ad., 4 ♂ juv. (1861).

Phlœoceastes guatemalensis, *Cab. J. f. O.* 1862, p. 175.

Scapaneus guatimalensis, *Cab. & Heine, Mus. Hein.* iv. p. 92 (1863).

Adult male. May be distinguished from *C. melanoleucus* by having the nasal plumes, entire head and crest, chin and throat crimson, with only a brownish spot over the ears; the white stripes down each side of the back just uniting, the middle of the back devoid

of any white patch; the black bars on the underparts broader; under wing-coverts and axillaries pale yellowish buff; bill very powerful. Total length 13 inches, culmen 2, wing 7·35, tail 4·2, tarsus 1·3; toes (without claws)—outer anterior 0·85, outer posterior 1·12, inner anterior 0·75, inner posterior 0 5.

Adult female. Differs from the adult male in having the forehead and central feathers of the crown, chin (except at the angle, which is red), and the throat black; the black feathers of the crown very much elongated; the white stripe which runs down the side of the neck commencing behind the malar region. Total length 13 inches, culmen 1·9, wing 7·25, tail 4·45, tarsus 1·32.

Young female. Resembles the adult of the same sex, but has a less amount of red on the face, the black bases of the feathers showing; the nasal plumes only assuming their red colour; under wing-coverts and axillaries less yellow and more of a buffy white: the bill darker.

Hab. Southern half of Mexico, north to Mazatlan and Tampico, about 23° N. lat.; throughout Central America into Veragua.

a, b. ♂ ♀ ad. st.	Central America.	Purchased.
c. ♀ imm. sk.	Mexico.	Sclater Coll.
d. ♀ ad. sk.	Mexico.	Purchased.
e. ♀ ad. sk.	Mazatlan, W. Mexico, Dec. (*A. Forrer*).	Salvin-Godman Coll.
f. ♂ ad. sk.	Presidio, Mexico, Dec. (*A. Forrer*).	Salvin-Godman Coll.
g. ♂ ad. sk.	Tepic, Jalisco, May (*W. B. Richardson*).	Salvin-Godman Coll.
h. ♂ ad. sk.	Tonila, Jalisco, June (*W. Lloyd*).	Salvin-Godman Coll.
i. ♀ ad. sk.	Santiago, Colima, June (*W. Lloyd*).	Salvin-Godman Coll.
k. ♂ imm. sk.	Cualata, Colima, June (*W. Lloyd*).	Salvin-Godman Coll.
l. ♂ ad. sk.	Jacolapa, Colima, 1000 ft., May (*W. Lloyd*).	Salvin-Godman Coll.
m. ♂ ad. sk.	Mexico (*W. Lloyd*).	Salvin-Godman Coll.
n, o. ♂ ad.; *p, q.* ♀ ad.; *r.* Juv. sk.	Tampico, Mexico, Feb., June (*W. B. Richardson*).	Salvin-Godman Coll.
s. ♀ ad. sk.	Tamesi, near Tampico, March (*W. B. Richardson*).	Salvin-Godman Coll.
t. ♀ ad. sk.	Mizantla, Vera Cruz, Nov.	Salvin-Godman Coll.
u. ♀ ad. sk.	Laguna Verde, Vera Cruz, Sept. (*M. Trujillo*).	Salvin-Godman Coll.
v. ♂ ad. sk.	Santana, Jalapa, Nov. (*Mex. Expl. Exped.*).	Salvin-Godman Coll.
w. ♂ ad. sk.	Jalapa (*de Oca*).	Salvin-Godman Coll.
x, y. ♂ ♀ ad. sk.	Colipa, Mexico, March (*F. D. G.*).	Salvin-Godman Coll.
z. ♂ ad. sk.	Teapa, Mexico, Feb. (*Mrs. H. H. Smith*).	Salvin-Godman Coll.
a', b'. ♂ ♀ imm. sk.	Northern Yucatan (*G. F. Gaumer*).	Salvin-Godman Coll.
c'. ♀ ad. sk.	Buctzotz, Yucatan, April (*G. F. Gaumer*).	Salvin-Godman Coll.

d'. ♀ ad. sk.	Orange Walk, British Honduras, Dec. (*G. F. Gaumer*).	Salvin-Godman Coll.
e'. ♀ ad. sk.	Cayo, Western Dist., British Honduras (*F. Blancaneaux*).	Salvin-Godman Coll.
f'. ♀ ad. sk.	Belize, British Honduras (*F. Blancaneaux*).	Salvin-Godman Coll.
g', *h'*. ♂ ♀ ad. sk.	Guatemala.	Tweeddale Coll.
i', *k'*. ♂ ♀ ad. sk.	Savana Grande, Guatemala.	Tweeddale Coll.
l'. ♂ ad. sk.	Woods near Virgin Bay, Nicaragua.	Tweeddale Coll.
m'. ♂ ad. sk.	Medio Monte, Guatemala, Oct. (*O. S.*).	Sclater Coll.
n', *o'*. ♂ ad. sk.	Volcan de Fuego, Guatemala, Oct., Nov. (*O. S.*).	Salvin-Godman Coll.
p'. ♀ ad.; *q'*. ♀ juv. sk.	Pacific Coast-Region, Guatemala, Nov., Dec, (*O. S.*).	Salvin-Godman Coll.
r'. ♀ ad. sk.	Honduras.	Mr. Dyson [P.].
s', *t'*. ♂ ad.; *u'*. ♀ ad. sk.	Costa Rica.	Tweeddale Coll.
v'. ♂ ad. sk.	Bebedero, Costa Rica (*E. Arcé*).	Salvin-Godman Coll.
w'. ♀ ad. sk.	San José, Costa Rica (*A. von Frantzius*).	Salvin-Godman Coll.
x'. ♂ ad. sk.	Dota, Costa Rica (*J. Carmiol*).	Salvin-Godman Coll.
y'. ♀ ad. sk.	Central America.	Gould Coll.

10. Campophilus guayaquilensis.

Picus guayaquilensis, *Less. Écho Mond. Sav.* 1845, p. 920, ♂; *id. Descr. Mamm. Ois. Sc. réc. découv.* 1847, p. 202, ♂.

Dryocopus albirostris (*non Vieill.*), *Sclat. P. Z. S.* 1858, pp. 75, 400, 1859, p. 146.

Megapicus sclateri, *Malh.* 1859; *id. Picidæ*, i. pp. 22, 156 (note), 165, pl. viii. fig. 1 (♀ ad.), pl. xxxv. fig. 8 (♂) (1861)

Dryocopus sclateri *, *Sclat. P. Z. S.* 1860, pp. 71, 286.

Campephilus sclateri, *Sclat. Cat. Amer. B.* p. 331, no. 1976 (1862); *Gray, List Picid. Brit. Mus.* p. 54 (1868); *id. Hand-l. B.* ii. p. 187, no. 8626 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 98 (1873); *Berl. & Tacz. P. Z. S.* 1883, p. 570, 1884, p. 307, 1885, p. 122; *Tacz. Orn. Pérou*, iii. p. 72 (1886).

Scapaneus sclateri, *Cab. & Heine, Mus. Hein.* iv. p. 92 (1863).

Picus sclateri, *Sundev. Consp. Av. Picin.* p. 5 (1866).

Adult male. Upper and middle back centred with black and having a broad white stripe on either side; lower back and rump brownish black, more or less barred with buff; scapulars, wing-coverts, and quills brownish black, the inner webs of the latter broadly margined with buff on more or less of their basal portion; shafts brown; upper tail-coverts and tail blackish brown, the shafts brown; nasal

* Dr. Sclater (P. Z. S. 1860, p. 286) says he suspects this will turn out to be *Picus guayaquilensis* of Lesson, and I have not the slightest doubt that he is correct in this supposition. The red "cravatte" mentioned by Lesson is indicated in the male bird in the Sclater Collection, and it may be a striking feature in the very old male.

plumes buffy white, with crimson tips; face and top of the head and the crest crimson, with a spot (the upper half brownish black, the lower half white) on the auricular region; chin, throat, and neck black, some of the feathers of the lower throat tipped with red; a broad white stripe from a little way behind the malar region runs down the side of the neck and joins the white stripe on the side of the back: under surface of the body and the under tail-coverts buff, barred with black; under wing-coverts and axillaries yellowish white; bill horn-colour. Total length 14 inches, culmen 1·9, wing 7·1, tail 4·25, tarsus 1·33; toes (without claws)—outer anterior 0·98, outer posterior 1·18, inner anterior 0·83, inner posterior 0·6.

Adult female. Has the lower nasal plumes and the lower half of the face white, uniting with the white stripe down the side of the neck; upper nasal plumes blackish brown. In other respects it resembles the adult male. Total length 13·5 inches, culmen 1·85, wing 7·05, tail 4·4, tarsus 1·4.

Hab. Western Ecuador and North-western Peru.

a. ♂ ad. sk.	Ecuador.	Tweeddale Coll.
b. ♀ ad. sk.	Santa Rita, Ecuador (*Villagomez*).	Salvin-Godman Coll.
c. ♀ ad. sk.	Pallatanga, Ecuador (*L. Fraser*).	Sclater Coll. (Types
d. ♂ ad. sk.	Esmeraldas, Ecuador (*L. Fraser*).	of *M. sclateri*, Malh.)

11. Campophilus pollens.

Picus pollens, *Bp. Atti Sest. Rium. Sci. Ital.* 1845, p. 406, ♂; *Sundev. Consp. Av. Picin.* p. 6 (1866).

Megapicus grayii, *Malh. Bull. Soc. Hist. Nat. Metz*, 1849, p. 17; *id. Picidæ*, i. p. 13, pl. v. figs. 1, 3, 4, ♂ ♀ ad., ♂ juv. (1861).

Dryocopus pollens (pt.), *Bp. Consp. Gen. Av.* i. p. 133 (1850).

Dryotomus pollens, *Bp. Consp. Volucr. Zygod.* p. 7, no. 9 (1854).

Campephilus mesoleucus, *Reichenb. Scans. Picinæ*, p. 393, no. 907, pl. dcxlix. figs. 4329–30, ♀ ♀ (1854).

Campephilus albifrenatus, *Reichenb. Scans. Picinæ*, p. 431, no. 902 *b*, & p. 434, ♂ (1854).

Dryocopus mesoleucus, *Licht. Nomencl. Av.* p. 75 (1854).

Dryocopus grayi, *Sclat. P. Z. S.* 1855, p. 161, 1859, p. 146.

Campephilus grayii, *Sclat. Cat. Amer. B.* p. 331, no. 1972 (1862); *Wyatt, Ibis*, 1871, p. 380.

Scapaneus pollens, *Cab. & Heine, Mus. Hein.* iv. p. 94 (1863).

Campephilus pollens, *Gray, List Picid. Brit. Mus.* p. 55 (1868); *id. Hand-l. B.* ii. p. 187, no. 8624 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 98 (1873); *iid. P. Z. S.* 1879, p. 532; *Pelz. Verhandl. zool.-bot. Gesellsch. Wien*, 1882, p. 448; *Berl. & Tacz. P. Z. S.* 1884, p. 307.

Adult male. Differs from *C. melanoleucus* in having no red whatever on the face, this, together with a distinct band at the base of the forehead, being black; nasal plumes white, and a white stripe from these (including the upper part of the malar region), crossing the face and running down the side of the neck, then dividing, one branch uniting with the stripe down the side of the back, the other extending as far as the side of the chest; back white, centred with

black on the upper part, some of the feathers of the middle of the back having their inner webs buff barred with black; rump and upper tail-coverts rufescent buff barred with black; upper tail-coverts more or less margined at the tip with rufescent buff; the quills tipped with white; underparts rich rufous buff. Total length 13·5 inches, culmen 1·8, wing 6·85, tail 4·6, tarsus 1·25; toes (without claws)—outer anterior 0·9, outer posterior 1·03, inner anterior 0·77, inner posterior 0·5.

Immature male. Resembles the adult of the same sex, but has the back whiter and the rump also white with only a tinge of buff, and uniform; some of the feathers above the ear-coverts are tipped with white; the red nuchal feathers are considerably shorter. Young birds have always less white on the tips of the quills and upon the inner webs of the innermost secondaries.

Adult female. Differs from the adult male in the entire absence of red on the head, the top of the head, occiput, and nape being black, the feathers of the latter less elongated than in the male. Total length 13 inches, culmen 1·78, wing 7·2, tail 4·8, tarsus 1·32.

Hab. Northern and Western States of Colombia, and Western Ecuador.

a. ♂ ad. st.	New Granada.	Purchased.
b. ♀ juv. sk.	New Granada.	Purchased.
c. ♂ ad.; *d.* ♀ imm. sk.	New Granada.	Salvin-Godman Coll.
e. ♂ ad. sk.	Santa Elena, Antioquia (*T. K. Salmon*).	Salvin-Godman Coll.
f. ♂ ad. sk.	Bogotá.	Purchased.
g. ♀ imm. sk.	Bogotá.	Purchased.
h, i, k, ♂ ad.; *l.* ♀ ad. sk.	Bogotá.	Tweeddale Coll.
m, n. ♂ ♀ ad. sk.	Bogotá.	Sclater Coll.
o. Juv. sk.	Popayan, Colombia.	Zoological Society.
p, q. ♂ ♀ ad. sk.	Churuco, Ecuador (*C. Buckley*).	Salvin-Godman Coll.

12. **Campophilus robustus.**

Carpintero gorro y cuello roxos, *Azara, Apunt. Hist. Nat. Páxar. Parag.* ii. p. 301 (1805).

Picus robustus, *Licht. Verz. Doubl.* p. 10 (1823); *Spix, Av. Bras.* i. p. 56, pl. xliv. ♂ (1824); *Valenc. Dict. Sc. Nat.* xl. p. 179, ♂, *nec* ♀ (1826); *Wagl. Syst. Av.* Picus, sp. 11 (1827); *Drap. Dict. Class. Hist. Nat.* xiii. p. 503, ♂ (1828); *Less. Traité,* i. p. 225 (1831); *Neuwied, Beitr. Naturg. Bras.* iv. p. 385 (1832); *Swains. Classif. B.* ii. p. 306 (1837); *Sundev. Consp. Av. Picin.* p. 6 (1866).

Campephilus robustus, *Gray, Gen. B.* ii. p. 436 (1845); *Hartl. Ind. Azara,* p. 16 (1847); *Reichenb. Scans. Picinæ,* p. 395, no. 914, pl. dcxlix. figs. 4333–34, ♂ ♂, pl. dcli. figs. 4339–40, ♀ ♀ (1854); *Bp. Consp. Volucr. Zygod.* p. 7, no. 11 (1854); *Burm. Th. Bras.* ii. p. 217 (1856); *Sclat. Cat. Amer. B.* p. 332, no. 1977 (1862); *Gray, List Picid. Brit. Mus.* p. 56 (1868); *id. Hand-l. B.* ii. p. 187, no. 8627 (1870); *Hamilton, Ibis,* 1871, p. 308; *Pelz.*

Orn. Bras. p. 243 (1870); *Berl. J. f. O.* 1873, p. 280; *Sclat. & Salv. Nomencl. Av. Neotr.* p. 98 (1873).

Dryocopus robustus, *Bp. Consp. Gen. Av.* i. p. 133 (1850).

Dryocopus percoccineus, *Bp. Consp. Gen. Av.* i. p. 134, ♂ (1850).

Megapicus robustus, *Malh. Picidæ*, i. p. 23, pl. iii. figs. 4 ♂, 5 ♀ (1861).

Phlœoceastes robustus, *Cab. J. f. O.* 1862, p. 176; *id. & Heine, Mus. Hein.* iv. p. 95 (1863).

Adult male. Back, rump, and upper tail-coverts uniform buff; scapulars, wing-coverts, bastard-wing, primary-coverts and quills brownish black, the inner webs of the quills crossed by broad bar-like spots or bars of rufous or rufous buff, some of the outer webs of the secondaries having a concealed rufous spot at the base; shafts black; tail and the shafts black: nasal plumes buff tipped with crimson; entire head and neck (except the base of the hind neck) crimson, with a spot (the upper half of which is dusky brown, the lower half buffy white) of bristly feathers covering the ears; base of the hind neck buff barred with black; entire under surface of the body and under tail-coverts buffy white barred with black; under wing-coverts and axillaries pale buff, a few of the lower coverts with dusky black barring. Total length 14·5 inches, culmen 2·15, wing 7·7, tail 4·85, tarsus 1·5; toes (without claws)—outer anterior 1, outer posterior 1·36, inner anterior 0·82, inner posterior 0·62.

Adult female. Differs from the adult male in having the nasal plumes, lower part of the lores, and the malar region buffy white, and uniting with the feathers covering the ears; base of the forehead, upper half of the lores, and a broad stripe bordering the upper part of the white patch, black; the feathers covering the chin-angle, and a stripe behind separating the white malar region from the red throat, black. Total length 14·5 inches, culmen 2, wing 7·85, tail 4·7, tarsus 1·5.

In immature birds the feathers of the neck have less red on their tips, and the bases, which are barred buff and dusky black, show through more or less.

Hab. Southern and Eastern Brazil, north into Bahia; Paraguay.

a, b. ♀ ad. sk.	Brazil.	Lord Stuart de Rothesay [P.].
c, d. ♂ ♀ ad. sk.	Brazil.	Sclater Coll.
e, f. ♂ ♀ ad. sk.	Brazil.	Tweeddale Coll.
g. ♀ ad. sk.	Rio Grande, Brazil.	Tweeddale Coll.
h. ♂ imm.; *i.* ♀ ad. sk.	Bahia, Brazil (*Dr. Wucherer*).	Salvin-Godman Coll.

13. Campophilus hæmatogaster.

Picus hæmatogaster, *Tschudi, Av. Consp. Rep. Peruan. in Arch. für Naturg.* 1844, p. 302, pl. xxv.; *Cab. in Tschudi's Faun. Peruan., Orn.* p. 43, pl. xxv. ♂ (1845–46); *Sundev. Consp. Av. Picin.* p. 6 (1866).

Dryocopus hæmatogaster, *Gray, Gen. B.* ii. p. 436 (1845); *Bp.*

Consp. Gen. Av. i. p. 134 (1850); *Sclat. P. Z. S.* 1855, p. 161; *Gray, List Picid. Brit. Mus.* p. 60 (1868); *id. Hand-l. B.* ii. p. 188, no. 8636 (1870); *Tacz. P. Z. S.* 1874, p. 546.

Megapicus hæmogaster, *Malh. Rev. et Mag. de Zool.* 1852, p. 552*; *id. Picidæ*, i. p. 27, pl. ix. figs. 1 ♂ ad., 2 ♀ imm., 3 ♂ ad. (1861).

Campephilus hæmatogaster, *Reichenb. Scans. Picinæ*, p. 395, no. 916, pl. dcli. fig. 4343, ♂ (1854); *Sclat. Cat. Amer. B.* p. 332, no. 1980 (1862); *id. & Salv. Nomencl. Av. Neotr.* p. 98 (1873); *Tacz. P. Z. S.* 1882, p. 42; *id. & Berl. op. cit.* 1885, p. 106; *Tacz. Orn. Pérou*, iii. p. 74 (1886).

Dryotomus hæmatogaster, *Bp. Consp. Volucr. Zygod.* p. 7, no. 10 (1854).

Cniparchus hæmatogaster, *Cab. & Heine, Mus. Hein.* iv. p. 98 (1863).

Adult male. Upper and middle back pale buffy yellow, the outer and the lower feathers barred with dusky black; lower back and rump crimson; upper tail-coverts and tail-feathers, as well as the shafts of the latter, black; scapulars, wing-coverts, and quills black, the latter having large, more or less bar-like spots of white upon the inner webs, and the outer webs of the outer primaries being tipped with dull white; shafts of quills black; face and a narrow band at the base of the forehead, chin, throat, and fore neck black; the nasal plumes and a broad stripe from the nostrils running between the ear-coverts and the malar region a little beyond the end of the former, as well as a narrow stripe running backwards from the eye, buff; entire top of the head and the crest, sides of the neck and hind neck crimson, the bases of the feathers of the hind neck white; entire underparts and under tail-coverts crimson, the feathers having brownish-black bases; under wing-coverts and axillaries pale buff. Total length 14 inches, culmen 2·25, wing 7·6, tail 4·6, tarsus 1·52; toes (without claws)—outer anterior 0·92, outer posterior 1·18, inner anterior 0·78, inner posterior 0·52.

Adult female. May be distinguished from the adult male by having the buff stripe, which commences at the nostril and passes between the malar region and the ear-coverts, continued down the entire side of the neck; sometimes this stripe on the side of the neck has a slight tinge of red. In other respects the adults of both sexes are alike. Total length 14 inches, culmen 2·2, wing 7·33, tail 4·35, tarsus 1·4.

Immature birds have less red on the underparts, and the bases of the feathers are barred with dingy buff.

Hab. Colombia (Bogotá), Ecuador, and south into Central Peru.

a. ♀ ad. st.	Colombia.	Purchased.
b. ♀ ad. sk.	New Granada.	Salvin-Godman Coll.
c. ♀ ad. sk.	Bogotá.	Sclater Coll.
d, e, f. ♀ ad. sk.	Bogotá.	Tweeddale Coll.
g, h. ♀ ad. sk.	Rosario, Ecuador (*C. Buckley*).	Salvin-Godman Coll.

* Malherbe describes the back of this species as "bluish black," which it is not. I can only account for this mistake by the author having before him a Bogotá skin in which the wings were, as usual, drawn together so as to conceal the back.

14. Campophilus splendens.

Campephilus hæmatogaster (*non Tschudi*), *Salv. P. Z. S.* 1867, p. 157; *id. op. cit.* 1870, p. 212; *id. & Sclat. op. cit.* 1879, p. 532.
Campephilus hæmatogaster (pt.), *Sclat. & Salv. Nomencl. Av. Neotr.* p. 98 (1873).
Campophilus splendens, *Hargitt, Ibis*, 1889, p. 58.

Adult male. Resembles *C. hæmatogaster*, but differs in having the whole of the fore neck and the throat on a line with the end of the malar region (or even higher) crimson, this colour also tipping the posterior malar feathers; the light bars on the quills are yellow and much broader, and approach nearer to the tips of the feathers; the bases of the feathers of the hind neck black; under wing-coverts and axillaries yellow, with a slight tinge of buff. Total length 12·5 inches, culmen 2·05, wing 7·3, tail 4·1, tarsus 1·4; toes (without claws)—outer anterior 0·95, outer posterior 1·15, inner anterior 0·74, inner posterior 0·48.

Adult female. Differs from the adult male in having the buffy-yellow stripe running right down the side of the neck; the chin, throat, and fore neck uniform black; the bases of the feathers of the underparts barred black and dingy buff, and showing through the red colour of the tips. Total length 11 inches, culmen 1·75, wing 6·8, tail 3·65, tarsus 1·47.

Hab. Antioquia, and north into Veragua.

a. ♀ ad. sk.	Calovevora, Veragua (*E. Arcé*).	Salvin-Godman Coll.
b, c. ♀ ad. sk.	Santiago de Veraguas (*E. Arcé*).	Salvin-Godman Coll.
d. ♂ ad.; *e.* ♀ imm. sk.	Antioquia, U. S. Colombia (*T. K. Salmon*).	Sclater Coll.

38. IPOCRANTOR.

	Type.
Ipocrantor, *Cab. & Heine, Mus. Hein.* iv. p. 99 (1863) . .	I. magellanicus.

Range. Chili and Patagonia, to the extreme south.

1. Ipocrantor magellanicus.

Picus magellanicus, *King, Zool. Journ.* iii. p. 430 (1828); *Wagl. Isis*, 1829, p. 509; *Jard. & Selby, Ill. Orn.* ii. pl. cv. ♂ ad. (circa 1829); *Bridges, P. Z. S.* 1841, p. 94; *Lafr. Rev. et Mag. de Zool.* 1843, p. 3, pl. xxxi. ♀; *Gay, Faun. Chil., Zool.* i. p. 372; *Sundev. Consp. Av. Picin.* p. 5 (1866); *Gray, Hand-l. B.* ii. p. 186, no. 8619 (1870).
Picus jubatus, *Lafr. Rev. de Zool.* 1841, p. 242, ♀.
Campephilus magellanicus, *Gray, Gen. B.* ii. p. 436 (1845); *Reichenb. Scans. Picinæ*, p. 391, no. 899, pl. dcxlv. figs. 4312–13, ♂ ♀ (1854); *Sclat. P. Z. S.* 1867, p. 338; *Gray, List Picid. Brit. Mus.* p. 54 (1868); *Sclat. & Salv. Ibis*, 1868, p. 187; *Cunningh. Str. Magell.* 1871, p. 81; *Sclat. & Salv. Nomencl. Av. Neotr.* p. 98 (1873); *iid. P. Z. S.* 1878, p. 434.

Dryocopus magellanicus, *Bp. Consp. Gen. Av.* i. p. 133 (1850).
Megapicus magellanicus, *Bp. Consp. Volucr. Zygod.* p. 7, no. 3 (1854); *Malh. Picidæ*, i. p. 8, pl. ii. figs. 1, 2, ♂ ♀ ad. (1861).
Ipocrantor magellanicus, *Cab. & Heine, Mus. Hein.* iv. p. 99 (1863).

Adult male. The whole of the plumage black, more or less glossed with blue, with the following exceptions: the entire head and crest, chin and throat scarlet, most of the feathers having a white transverse spot about their middle; the inner webs of most of the quills on more or less of their basal portion, and of the innermost secondaries entirely, the under wing-coverts (except on the edge of the wing) and the axillaries white; the upper tail-coverts with a stripe of white down each side of the shaft at the base; shafts of quills and of tail-feathers black. Total length 15·5 inches, culmen 2·3, wing 8·3, tail 5·9, tarsus 1·3; toes (without claws)—outer anterior 1·03, outer posterior 1·16, inner anterior 0·88, inner posterior 0·65.

Adult female. Differs from the adult male in having the head and crest blue-black, with only the nasal plumes, base of the forehead, lores, front half of the malar region, and the chin red. Total length 15·5 inches, culmen 2·25, wing 8·5, tail 6·3, tarsus 1·4. The soft parts in this species are as follows:—"irides yellow, bill and legs black" (*King*).

Young. A male, with the whole of the top of the head and the short crest scarlet, the feathers having black bases and a white central spot, has the lores, face, posterior portion of malar region, chin, except at the angle, and the throat black, only a few of the feathers being tipped with red, the red-tipped feathers on the hinder part of the malar region having a white central spot; the quills spotted with white at the tip; the inner webs of the innermost secondaries barred with black at the tip: the female is like the adult of the same sex, but has no red on the lores, and this colour on the anterior portion of the malar region and on the chin is less in extent; the quills (as in the young male) are tipped with white, and the inner secondaries have the inner webs barred with black at the tip.

Hab. Chili and Patagonia, south to the Straits of Magellan (Sandy Point).

a. ♂ imm.; *b, c.* ♀ ad. sk.	Straits of Magellan.	Antarctic Expedition.
d, e. ♂ ♀ ad. sk.	Sandy Point, Straits of Magellan (*Cunningham*).	Sclater Coll.
f, g. ♂ ♀ ad. sk.	Porto Bueno.	'Challenger' Expedition.
h, i. ♂ ♀ ad.; *k.* ♂ juv. sk.	Chili (*Leybold*).	Salvin-Godman Coll.
l, m. ♂ ♀ ad. sk.	Valdivia, Chili (*Weisshaupt*).	Salvin-Godman Coll.

39. HEMICERCUS.

Type.

Hemicircus, *Swains. Classif. B.* ii. p. 306 (1837) ..... H. concretus.
Micropicos, *Malh. Mém. Acad. Metz*, 1848–49, p. 330.. H. concretus.

Range. From Cachar in the north, through Burmah (locally) and into Siam, Cambodia, and South Cochin China; through the Malayan Peninsula into Sumatra, Bangka, Java, and Borneo. To the west appearing again in Southern India.

Key to the Species.

A. With the top of the head red or with a red crest.
  a'. Forehead and crown red.
    a''. Forehead and crown vermilion-red; occipital crest olive-grey ..... *sordidus* ♂ ad., p. 484.
    b''. Forehead and crown, as well as entire crest, scarlet..... *concretus* ♂ ad., p. 483.
  b'. Forehead and crown rufous buff.
    c''. Occipital crest orange-red, varied and transversely spotted with dusky .. *sordidus* ♂ juv., p. 484.
    d''. Occipital crest uniform bright flame-red *concretus* ♂ juv., p. 483.
B. With no red on the head.
  c'. Forehead and crown of the same colour as the crest, and uniform or minutely spotted.
    e''. Forehead, crown, and crest olive-grey. *sordidus* ♀ ad., p. 484. *concretus* ♀ ad., p. 483.
    f''. Top of the head, as well as the crest, black, the forehead and crown minutely speckled with white ..... *canente* ♂ ad., p. 486. *cordatus* ♂ ad., p. 488.
  d'. With a frontal patch of buffy white or dingy buff.
    g''. Forehead and crown buffy white, occipital crest black ..... *canente* ♀ ad., p. 487. *cordatus* ♀ ad., p. 489.
    h''. Forehead and crown dingy buff, occipital crest black ..... *canente* juv., p. 487. *cordatus* juv., p. 489.

1. Hemicercus concretus.

Picus concretus, *Temm. Pl. Col.* pl. xc. figs. 1, 2 (1824); *Steph. Gen. Zool.* xiv. p. 160 (1826); *Wagl.* (pt.) *Syst. Av.* Picus, sp. 70 (1827); *Less. Traité*, i. p. 221 (1831); *Sundev. Consp. Av. Picin.* p. 11, no 26 *b* (1866).

Hemicercus concretus, *Swains. Classif. B.* ii. p. 306 (1837); *Gray, Gen. B.* ii. p. 437 (1845); *Bp.* (pt.) *Consp. Gen. Av.* i. p. 129 (1850); *id. Consp. Volucr. Zygod.* p. 9 (1854); *Reichenb. Scans. Picinæ*, p. 401, pl. dclvi. figs. 4361–63 (juv.) (1854); *Blyth, Ibis*, 1866, p. 354; *Cab. & Heine* (pt.), *Mus. Hein.* iv. p. 178 (1863); *Gray* (pt.), *Hand-l. B.* ii. p. 190, no. 8667 (1870); *Gould, B. Asia*, vi. pl. xix. figs. ♂ juv. and ♀ ad. (1876); *Hargitt, Ibis*, 1884, p. 250; *Vorderm. List B. Java*, no. 55 (1884).

Micropicos concretus, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 331.

Micropicus concretus, *Malh. Picidæ*, i. p. 187, pl. xli. fig. 1 ♂ juv., fig. 3 ♀ ad. (1861).

Micropicus hartlaubi, *Malh. Picidæ*, i. p. 189, pl. xli. fig. 5 ♂ ad., fig. 6 ♀ juv. (1861).

Hemicercus hartlaubi, *Gould, B. Asia*, vi. pl. xx. figs. ♂ ♀ ad. (1876).

Adult male. Upper back and scapulars covered with very large rounded or slightly heart-shaped spots of black surrounded by buffy white, these being on the apical and exposed part of the feather, the base being black barred with white; lower back purplish slate-colour; rump buffy white; upper tail-coverts black tipped with white; wing-coverts black margined with buffy white; quills black, the inner webs of the primaries margined at the base with white, those of the secondaries margined and notched along their whole length, the outer webs of the secondaries spotted with white, the innermost of these feathers barred with buffy white across both webs; shafts black; tail-feathers and shafts black; forehead, crown, and elongated crest brilliant scarlet, the latter composed of very soft feathers; hind neck buffy white; nasal plumes, sides of the face and neck, and from the chin to the vent, both inclusive, dark slate-grey, with a slight tinge of olive, chiefly on the underparts; a faint trace of a whitish stripe runs down the side of the neck, but this is almost obsolete; the thigh-feathers are black margined with buffy white, the black forming a heart-shaped spot, the feathers of the abdomen and vent tipped with dull buffy white; under tail-coverts black with whitish tips; under wing-coverts buffy white. Total length 5·5 inches, culmen 0·8, wing 3·35, tail 1·15, tarsus 0·65; toes (without claws)—outer anterior 0·6, outer posterior 0·65, inner anterior 0·4, inner posterior 0·28.

Young male. Has the forehead and crown bright rufous buff; the entire crest flame-red; the feathers of the underparts tipped with greyish white; the buffy-white stripe down the side of the neck well marked; a greater amount of white on the upper back, wings, and wing-coverts; the feathers of the lower back broadly tipped with buffy white.

Adult female. Differs from the adult male in having the forehead, crown, and entire crest olive-grey. Total length 5·2 inches, culmen 0·8, wing 3·35, tail 1·2, tarsus 0·65.

Hab. Confined to the island of Java.

a b. ♂ ♀ ad. sk.	Java.	Gould Coll.
c, d. ♂ ♀ ad. sk.	E. Java.	Wallace Coll.
e. ♀ ad. sk.	E. Java (*A. R. Wallace*).	Tweeddale Coll.
f. ♂ ad. sk.	E. Java (*Mus. Lugd.*).	Salvin-Godman Coll.
g. ♂ juv. sk.	Batang, Java.	Gould Coll.
h. Juv. sk.	Java.	Purchased.
i. Skeleton.	Java.	Purchased.

2. **Hemicercus sordidus.***

Picus concretus (pt.), *Wagl. Syst. Av.* Picus, sp. 70 (1827).
Dendropicus sordidus, *Eyton, Ann. & Mag. Nat. Hist.* xvi. p. 229 (1845).

* Under the title of *Meiglyptes sordidus*, Reichenbach describes a bird from Tenasserim; but from the description given it is impossible to assign it to any known species, and it is equally puzzling to know in which genus it should be placed.

Hemicercus concretus (*nec Temm.*), *Blyth, J. A. S. B.* 1845, p. 195; *id. Cat. Mus. As. Soc.* p. 54 (1849); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 650 (1856–58); *Jerd. B. Ind.* i. p. 281 (1862); *Gray, List Picid. Brit. Mus.* p. 70 (1868); *Salvad. Ucc. Born.* p. 47 (1874).

Hemicercus concretus (pt.), *Bp. Consp. Gen. Av.* i. p. 129 (1850); *id. Consp. Volucr. Zygod.* p. 9 (1854); *Gray, Hand-l. B.* ii. p. 190, no. 8667 (1870).

Hemicercus coccometopus, *Reichenb. Scans. Picinæ*, p. 401, pl. delvi. figs. 4364–4365, ♂ ♀ ad. (1854); *Sclat. P. Z. S.* 1863, p. 211; *Blyth, Ibis*, 1866, p. 354 (note).

Hemicercus sordidus, *Blyth, J. A. S. B.* 1855, p. 272; *Cab. & Heine, Mus. Hein.* iv. p. 177 (1863); *Gray, List Picid. Brit. Mus.* p. 70 (1868); *id. Hand-l. B.* ii. p. 190, no. 8666 (1870); *Salvad. Ucc. Born.* p. 46 (1874); *Tweedd. Ibis*, 1877, p. 291; *Hume & Davison, Str. F.* 1878, vi. p. 128; *Hume, op. cit.* 1879, p. 52; *Sharpe, Ibis*, 1879, p. 240; *Salvad. Ann. Mus. Civ. Stor. Nat. Genov.* xiv. p. 181 (1879); *Kelham, Ibis*, 1881, p. 338; *Hargitt, Ibis*, 1884, p. 247.

Micropicus concretus (pt.), *Malh. Picidæ*, i. p. 187, pl. xli. fig. 2, ♂ juv. (1861).

Picus sordidus, *Sundev. Consp. Av. Picin.* p. 10 (1866); *Giebel, Thes Orn.* iii. p. 180 (1876).

Hemicercus brookeanus, *Salvad. Ucc. Born.* p. 44 (1874).

Adult male. Resembles *H. concretus*, but differs in having the occipital crest olive slate-grey; the forehead and crown vermilion-red, the feathers, with the exception of the posterior and elongated ones, more rigid; the underparts more tinged with olive. Total length 5·5 inches, culmen 0·85, wing 3·35, tail 1, tarsus 0·65; toes (without claws)—outer anterior 0·6, outer posterior 0·7, inner anterior 0·4, inner posterior 0·28.

Adult female. Has the entire top of the head, as well as the crest, slaty grey, the latter slightly olive. It is almost identical with the female of *H. concretus*, but has the crest perhaps a trifle longer. Total length 5 inches, culmen 0·75, wing 3·3, tail 1, tarsus 0·6.

The following are the various plumages possessed by the present species which have come under my notice:—

1*st stage.*—*Male, nestling.* Forehead, crown, and crest rufous buff, the latter with only a trace of flame-red, and varied with dusky, as well as having dusky tips to the feathers, those of the forehead and crown having their tips alone dusky.

2*nd stage.*—Forehead and crown rufous buff, the feathers having dusky tips, a few red feathers appearing on the crown; the crest a mixture of flame-red and rufous buff, the feathers having dusky tips.

3*rd stage.*—Forehead and crown as in the latter stage, with numerous red feathers appearing; crest olive-grey mixed with reddish buff.

4*th stage.*—Forehead and crown vermilion-red; crest olive-grey, barred with dull buff.

5*th stage.*—Forehead and crown vermilion-red, the hinder feathers

of the crown elongated; occipital crest olive-grey. This is the fully adult male.

1*st stage*?—*Female, young*. Forehead and crown pale rufous buff, the crest more rufous, the feathers of the latter having dusky tips. This is the first stage of plumage in which I have seen the female; but there is very probably an earlier one, in which the feathers of the forehead and crown will have dusky tips.

2*nd stage*.—Forehead, crown, and crest olive-grey, some of the feathers of the crest being barred with buffy whitish.

3*rd stage*.—Forehead, crown, and crest entirely olive-grey. This is the fully adult female.

Hab. Malayan Peninsula and straggling into South Tenasserim; Sumatra, Bangka, and Borneo.

a. ♂ juv. sk.	Bankasoon, June 10, 1877 (*W. Davison*).	Hume Coll.
b. ♂ ad. sk.	Penang (*Dr. Cantor*).	India Museum.
c. ♂ ad. sk.	Klang, Salangore, Feb. 13, 1880 (*W. Davison*).	Hume Coll.
d. ♂ ad. sk.	Salangore, Nov. 10, 1879 (*W. Davison*).	Hume Coll.
e. ♂ ad. sk.	Malacca.	W. Harvey, Esq. [P.].
f. ♀ ad.; *g*. ♂ imm. sk.	Malacca.	Major Charlton [P.]. (Types of the species.)
h, *i*. ♂ ♀ ad. sk.	Malacca (*Dr. Cantor*).	India Museum.
k–n. ♂ ad. et imm.; *o*. ♀ juv. sk.	Malacca, Aug. (*R.G.W.R.*).	Tweeddale Coll.
p–v. ♂ ad. et juv.; *w*, *x*, *y*. ♀ ad. sk.	Malacca, Jan., July, Aug. (*W. Davison*).	Hume Coll.
z, *a'*. ♂ ad. et imm. sk.	Nealys, Malacca, Oct. 1875 (*W. Davison*).	Hume Coll.
b', *c'*, *d'*. ♂ ad. et juv.; *e'*. ♀ ad. sk.	Pulo Seban, Malacca, Oct., Nov. (*W. Davison*).	Hume Coll.
f'. ♂ ad. sk.	Kuroo, Malacca, Nov. 2, 1875 (*W. Davison*).	Hume Coll.
g', *h'*. ♂ ♀ ad. sk.	Johore, Feb., Aug. (*W. Davison*).	Hume Coll.
i', *k'*. ♂ ♀ ad. sk.	Jaffaria, Johore, March 18, 1880 (*W. Davison*).	Hume Coll.
l'–m'. ♂ ad. et imm.; *n'–q'*. ♀ ad. et juv. sk.	Gunnong Pulai, Johore, March, July, Aug., Sept. (*W. Davison*).	Hume Coll.
r', *s'*. ♂ ♀ ad. sk.	Singapore.	Wallace Coll.
t'. ♂ juv. sk.	Singapore.	Hume Coll.
u', *v'*. ♂ ♀ ad.; *w'*. ♂ juv. sk.	Singapore.	Gould Coll.
x', *y'*, *z'*. ♂ ad. et juv.; *a''*, *b''*. ♀ ad. sk.	Lampong, S.E. Sumatra (*E. C. Buxton*).	Tweeddale Coll.
c''. ♂ juv. sk.	Sumatra.	Wallace Coll.
d'', *e''*. ♂ ♀ ad. sk.	Labuan, Borneo.	Hon. Hugh Low [C.].
f''. ♂ juv. sk.	Lumbidau.	Hon. Hugh Low [C.].
g''. ♀ ad. sk.	Sarawak.	Wallace Coll.
h'', *i''*. ♂ ♀ ad.; *k''*, *l''*. ♂ ♀ juv. sk.	Sarawak (*H. Ererett*).	Tweeddale Coll.

m'',*n''*. ♂ ♀ ad.sk.	Sarawak.	H. Everett [C.].
o''. ♂ ad. sk.	Banjarmassing (*J. Motley*).	Wallace Coll.
p'', *q''*. ♂ ♀ ad.	Borneo.	Rajah Brooke [P.].
r''. ♀ juv. sk.	Borneo.	Purchased.

3. Hemicercus canente.

Picus canente, *Less. Cent. Zool.* p. 215, pl. lxxiii. ♂ (1830); *id. Bélang. Voy.* iii. p. 240 (1834), ♂.

Hemicercus canente, *Gray, Gen. B.* ii. p. 437 (1845); *Blyth, J. A. S. B.* xv. p. 282 (1846); *id. Cat. B. Mus. As. Soc.* p. 54 (1849); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 650 (1856–58), pt.; *Jerd.* (pt.) *B. Ind.* i. p. 280 (1862); *Blyth, J. A. S. B.* 1863, p. 75; *Cab. & Heine, Mus. Hein.* iv. p. 176 (1863); *Blyth, Ibis*, 1866, pp. 349, 354; *Gray, List Picid. Brit. Mus.* p. 71 (1868); *id. Hand-l. B.* ii. p. 190, no. 8668 (1870); *Blyth, Ibis*, 1870, p. 169; *Blanford, t. c.* p. 464; *Elwes, t. c.* p. 527; *Hume & Davison, Str. F.* 1874, p. 471; *id. & Oates, op. cit.* 1875, pp. 14, 60; *Blyth & Wald. B. Burm.* 1875, p. 74; *Wald. Ibis*, 1876, p. 344; *Hume, Str. F.* 1877, p. 25; *id. & Davison, op. cit.* 1878, vi. pp. 127, 500; *Hume, op. cit.* 1880, p. 112; *Bingham, t. c.* p. 161; *Oates, op. cit.* 1882, p. 190; *id. B. Brit. Burm.* ii. p. 30 (1883); *Hargitt, Ibis*, 1884, p. 252; *Salvad. Ann. Mus. Civ. Stor. Nat. Genova*, 1888, p. 564; *Hume, Str. F.* xi. p. 61 (1888).

Micropicos canente, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 331.

Hemicercus canens, *Bp. Consp. Gen. Av.* i. p. 129 (1850); *id. Consp. Volucr. Zygod.* p. 9 (1854); *Reichenb. Scans. Picinæ*, p. 401, pl. delvi. figs. 4366–4367, ♂ ♀ ad. (1854).

Micropicus canente (pt.), *Malh. Picidæ*, i. p. 190, pl. xlii. figs. 1, 2 (1861).

Picus canente, *var.* orientalis, *Sundev. Consp. Av. Picin.* p. 11 (1866).

Adult male. Back and scapulars black, with a broad median stripe of buffy white on the upper back; rump pale buff, the lower feathers barred with black at the tip; upper tail-coverts, tail, and the shafts black; a very conspicuous patch of pale buff extending along the whole of the forearm, the remaining wing-coverts black narrowly margined at the tip with buffy white; the innermost of the secondary quills buffy white with a large heart-shaped subapical spot of black, and sometimes a concealed spot or bar, the remainder of the quills black, the base of the inner webs margined with white; shafts black; nasal plumes, top of the head and crest, upper half of the face, and the hind neck black; the forehead and almost the entire crown minutely speckled with white; chin and throat dull buffy white, the malar region slightly dusky; fore neck and under surface of the body olive dusky; from under the ear-coverts a pale buff stripe runs backwards down the side of the neck on to the side of the chest, and separated from the fore neck and chest by a row of black spots; thighs, vent, and under tail-coverts black, the latter, as well as the feathers of the vent, narrowly tipped with whitish; under wing-coverts and axillaries buffy white or slightly yellowish. Total length 6·8 inches, culmen 1·05, wing 3·85, tail 1·4, tarsus 0·78; toes (without claws)—outer anterior 0·65, outer posterior 0·72, inner anterior 0·45, inner posterior 0·35.

Adult female. May be distinguished from the adult male by its pale buff forehead and crown. Total length 6·3 inches, culmen 0·8, wing 3·85, tail 1·4, tarsus 0·7.

Young. Both sexes resemble the adult female, but differ in having the forehead and crown deeper buff; a dusky black stripe from the lower mandible bordering the throat; the greater wing-coverts with broader buffy margins; the under surface of the body black. The change from the buff crown of the young male to the black crown of the adult is apparently not the result of a moult, as the black commences at the tip of the feather and by degrees replaces the buff.

The soft parts in this species are as follows: "legs and feet dark greenish horny, dark greenish plumbeous, or very dark sap-green, often appearing all but black; the claws blackish plumbeous or black; bill black; irides dark brown or dark reddish brown" (*E. W. Oates*).

Hab. Throughout British Burmah (locally), and ranges north into Cachar and Manipur; south through Tenasserim, and into the Malayan Peninsula as far as Kosseom; eastward into Siam, Cambodia, and South Cochin China. Probably occurs also in Native Burmah.

a, b, c. ♂ ad. sk.	Cachar (*J. Inglis*).	Hume Coll.
d, e. ♂ ♀ ad.; *f, g.* ♂ imm. sk.	Karen Hills, Burmah, Jan. 1875 (*R. G. W. R.*).	Tweeddale Coll.
h. ♀ ad.; *i.* ♂ imm. sk.	Burmah (*Houghton*).	Tweeddale Coll.
k. ♀ ad. sk.	Toughoo, Oct. 7, 1875 (*R. G. W. R.*).	Tweeddale Coll.
l. ♂ imm. sk.	Bassein, Pegu.	W. T. Blanford, Esq. [P.].
m, n. ♂ ad. et juv.; *o, p.* ♀ ad. et juv. sk.	Pahpoon, Dec., Jan., Feb. (*W. Davison*).	Hume Coll.
q. ♀ ad. sk.	Salween River, Dec. 17, 1873 (*W. Davison*).	Hume Coll.
r. ♀ ad. sk.	Beeling, Feb. 11, 1876 (*W. Davison*).	Hume Coll.
s, t. ♀ ad.; *u.* ♂ imm. sk.	Thatone, Jan. 1878 (*W. Davison*).	Hume Coll.
v. ♂ imm. sk.	Thatone, Dec. 29, 1877 (*W. Davison*).	Hume Coll.
w. ♂ ad. sk.	Wimpong, Dec. 15, 1876 (*W. Davison*).	Hume Coll.
x–a′. ♂ ad.; *b′–e′.* ♀ ad. et juv. sk.	Kaukaryit, Jan., May, June, July, Aug., Sept. (*J. Darling*).	Hume Coll.
f′. ♂ imm. sk.	Khyin, March 5, 1877 (*W. Davison*).	Hume Coll.
g′, h′. ♂ ♀ ad. sk.	Meetan, Feb. 1877 (*W. Davison*).	Hume Coll.
i′–m′. ♂ ad. et juv.; *n′–r′.* ♀ ad. et juv. sk.	Amherst, Dec., July (*W. Davison*).	Hume Coll.
s′. ♂ ad. sk.	Zadee, April 5, 1874 (*W. Davison*).	Hume Coll.
t′. ♀ ad. sk.	Meeta Myo, April 19, 1874 (*W. Davison*).	Hume Coll.

u'. ♂ ad. sk.	Mergui, Jan. 7, 1879 (*W. Davison*).	Hume Coll.
v'. ♀ ad. sk.	Zadawoon, Mergui Islands, Nov. 21, 1874 (*W. Davison*).	Hume Coll.
w'. ♀ ad. sk.	Tenasserim Town, Nov. 25, 1874 (*W. Davison*).	Hume Coll.
x'. ♀ juv. sk.	Laynah, May 17, 1875 (*W. Davison*).	Hume Coll.
y'–z', *a''*. ♂ ad.; *b''–e''*. ♀ ad.; *f''*. juv. sk.	Tavoy, March, April, 1878 (*W. Davison*).	Hume Coll.
g''. ♂ juv. sk.	Pakchan, Jan. 22, 1875 (*W. Davison*).	Hume Coll.
h'', *i''*. ♀ ad.; *k''*, *l''*, *m''*. ♂ ad. et imm. sk.	Bankasoon, Dec., April (*W. Davison*).	Hume Coll.
n''. Juv. sk.	Mts. of Luang, Siam, Aug. 1868.	Mons. E. Pierre [P.].
o''. Skeleton.	[Java.]	Purchased.

Subsp. *a*. **Hemicercus cordatus.**

Hemicercus cordatus, *Jerd. Madr. Journ.* xi. p. 211 (1840); *Gray, Gen. B.* ii. p. 437 (1845); *Jerd. Ill. Ind. Orn.* pl. xl. (1847); *Bp. Consp. Gen. Av.* i. p. 129 (1850); *Reichenb. Scans. Picinæ*, p. 401, pl. dclvi. figs. 4368–4369, ♂ ♀ ad. (1854); *Cab. & Heine, Mus. Hein.* iv. p. 175 (1863); *Blyth, Ibis*, 1866, pp. 249, 254; *Gray, List Picid. Brit. Mus.* p. 71 (1868); *id. Hand-l. B.* ii. p. 191, no. 8669 (1870); *Blyth, Ibis*, 1870, p. 169; *Hume, Str. F.* 1876, p. 389; *Gould, B. Asia*, vi. pl. xviii. figs. ♂ ♀ ad. (1876); *Davidson & Wenden, Str. F.* 1878, vii. p. 95; *Butler, op. cit.* 1880, p. 385; *Davison, op. cit.* x. p. 354 (1883); *Hargitt, Ibis*, 1884, p. 257.

Hemicercus canente (pt.), *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 650 (1856–58).

Micropicus canente (pt.), *Malh. Picidæ*, i. p. 190, pl. xlii. figs. 1, 2 (1861).

Hemicercus canente (*non Less.*), *Jerd. B. Ind.* i. p. 280 (1862); *Salv. Cat. Strickl. Coll.* p. 401 (1882).

Picus canente, *var.* occidentalis, *Sundev. Consp. Av. Picin.* p. 11 (1866).

Picus cordatus, *Giebel, Thes. Orn.* iii. p. 151 (1876).

Hemicirens canente (? *lapsu*), *Butler, Str. F.* 1877, p. 503.

Adult male. Although so closely allied to *H. canente* as to render a detailed description unnecessary, still the conspicuously smaller size of the present subspecies precludes the possibility of mistaking one bird for the other, and this, together with the isolated geographical position of *H. cordatus*, is sufficient to warrant a separation of the Indian from the Burmese bird. The measurements of the toes are nearly the same in both, but in *H. cordatus* they are much more slender, *H. canente* having the tarsi and toes very stout: "bill black; legs and feet blackish, tinged with plumbeous; irides deep brown" (*W. Davison*). Total length 5·7 inches, culmen 0·85, wing 3·7, tail 1·35, tarsus 0·7; toes (without claws)—outer anterior 0·63, outer posterior 0·72, inner anterior 0·45, inner posterior 0·32.

Adult female. Resembles the female of *H. canente*. Total length 5·5 inches, culmen 0·75, wing 3·45, tail 1·3, tarsus 0·63.

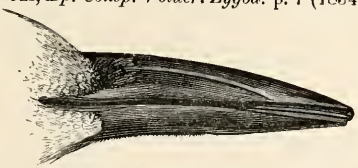
Young. Both sexes resemble the adult female, but have the forehead and crown dingy buff.

Hab. Southern part of India.

a. ♀ ad. sk.	Nellacotta, Wynaad, March 1881 (*W. Davison*).	Hume Coll.
b. ♀ ad. sk.	Charmbady, Wynaad, April 2, 1881 (*W. Davison*).	Hume Coll.
c, d. ♂ imm. sk.	Wynaad, July, Sept. 19, 1877 (*J. Darling*).	Hume Coll.
e. ♂ ad.; *f*. ♂ juv. sk.	Malabar.	Hume Coll.
g, h, i. ♂ ad.; *k, l, m*. ♀ ad. sk.	Malabar.	Tweeddale Coll.
n. ♂ ad. sk.	Malabar.	Gould Coll.
o, p. ♂ ad.; *q*. ♀ ad. sk.	Calicut.	Hume Coll.
r. ♂ juv. sk.	Travancore.	Hume Coll.
s, t. ♂ ♀ ad. sk.	Mynall, Travancore, Dec. 3 1874 (*F. W. Bourdillon*).	Hume Coll.
u, v. ♀ ad. sk.	Mynall, December.	F. W. Bourdillon, Esq. [C.].
w. ♂ ad.; *x–a'*. ♂ juv. sk.	Anjango, Travancore.	Hume Coll.

40. MICROSTICTUS.

Lichtensteinipicus, *Bp. Consp. Volucr. Zygod.* p. 7 (1854). Type. M. funebris.



Bill of *Microstictus fulvus*.

Range. Celebes and Philippine Islands.

Key to the Species.

A. Dark slaty grey above, sandy buff below.
  a'. With red on the head.
    a''. Forehead and anterior two thirds of crown and face, including malar region, crimson ..... *fulvus* ♂ ad., p. 490.
    b''. The whole of the top of the head and the occiput, as well as almost the entire face, crimson ..... *wallacii* ♂ ad., p. 491.
  b'. With no red on the head, this being dark slaty grey speckled with white.
    c''. Tail brown above and below, the underside more sandy; shafts of tail-feathers brown above, the underside white with the apical portion dusky brown..... *fulvus* ♀ ad., p. 491.

d''. Tail dark brownish dusky above and below, the shafts nearly black above, their underside dusky, with smoky-white bases ..... *wallacii* ♀ ad., p. 492.

B. Unicolorous above and below.

c'. Above and below slaty smoke-grey, the feathers of the head and neck with a terminal linear white marking; malar region crimson ..... *fuliginosus* ♂ ad. *, [p. 492.

d'. Above and below almost black, more or less glossed with blue; chin, throat, and fore neck browner, and together with the side of the neck covered with rounded specks of white, the occiput with more linear markings of white.

e''. Forehead and fore part of crown, anterior two thirds of face, and entire malar region mulberry-red ..... *funebris* ♂ ad., p. 493.

f''. With no red on the head, this being almost uniform slaty black, the malar region, (only) being distinctly speckled with white ..... *funebris* ♀ ad., p. 493.

1. Microstictus fulvus.

Picus fulvus, *Quoy & Gaim. Voy. l'Astrol., Zool.* p. 228, Atlas, pl. xvii. fig. 2, ♂ (1833); *Sundev. Consp. Av. Picin.* p. 10 (1866).

Hemilophus fulvus, *Gray, Gen. B.* ii. p. 439 (1846); *Bp. Consp. Gen. Av.* i. p. 131 (1850); *id. Consp. Volucr. Zygod.* p. 7, no. 17 (1854); *Reichenb. Scans. Picinæ*, p. 385, no. 891, pl. dcxliv. figs. 4302–03, ♂ ♂ (1854); *Gray, List Picid. Brit. Mus.* p. 84 (1868).

Dryopicos fulvus, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 323.

Dryopicus fulvus, *Malh. Picidæ*, i. p. 53, pl. xiv. figs. 1 ♂, 2 ♀ (1861).

Campethera fulvus, *Gray, Hand-l. B.* ii. p. 193, no. 8705 (1870).

Alophonerpes fulvus, *Tweedd. Trans. Zool. Soc.* 1872, p. 41 (pt.); *Blas. J. f. O.* 1883, p. 135; *id. Zeitsch. für Orn.* 1886, p. 87.

Mulleripicus fulvus, *Meyer, Ibis*, 1879, pp. 57, 145; *Wardl.-Rams. Tweedd. Mem.* p. 144 (1881), pt.; *Guillem. P. Z. S.* 1885, p. 546.

Adult male. Entire back, rump, wings and their coverts, tail, and upper tail-coverts slaty black, the feathers of the rump spotted on their tips with greyish white; shafts of quills black, those of the tail-feathers browner; nasal plumes brown; lores, forehead and crown, side of the face to the middle of the ear-coverts (except immediately behind the eye, this being red in very old birds only) crimson, the feathers very close and short; the remainder of the face, occiput, nape, and entire hind neck slaty black, the feathers having white specks on their tips; ear-coverts tipped with greyish white; chin and throat ashy brown, slightly rufescent on the fore neck, the whole being covered with white specks; entire underparts and under tail-coverts sandy brown; under wing-coverts and

* The female is unknown.

axillaries slaty black; under surface of the tail brownish. Total length 14 inches, culmen 1·8, wing 7·1, tail 6·1, tarsus 1·25; toes (without claws)—outer anterior 1, outer posterior 0·8, inner anterior 0·75, inner posterior 0·4.

Adult female. Differs from the adult male in wanting the red on the head, those parts which are red in the male being slaty black covered with very minute whitish specks, these being less marked on the ear-coverts. Total length 13·5 inches, culmen 1·6, wing 6·5, tail 5·6, tarsus 1·22.

Young, probably female. Resembles the adult female, but has the feathers of the upper portion of the forehead and greater part of the crown tipped with crimson; underparts sandy brown, the chest having whitish spotting.

Fledgling male. Differs from the young bird above described in having the red patch on the forehead and crown more marked and richer in colour; the underparts more of a sandy grey; the tail-shafts lighter, and the under surface of the tail greyer.

Hab. North Celebes.

a, b. ♂ ♀ ad. st.	Celebes.	Purchased.
c. ♂ imm. st.	Celebes.	E. Wilson, Esq. [P.].
d, e. ♂ imm. ♀ ad. sk.	Celebes.	Purchased.
f. ♀ imm. sk.	Celebes, Sept. 12, 1863 (*Von Rosenberg*).	Salvin-Godman Coll.
g. ♂ ad. sk.	Menado, N. Celebes.	Gould Coll.
h, i. ♂ ♀ ad. sk.	Menado.	Hume Coll.
k, l. ♂ ad.; *m.* ♀ ad. sk.	Menado.	Tweeddale Coll.
n. Skeleton.	Menado.	

2. Microstictus wallacii.

Alophonerpes fulvus (*non Quoy & Gaim.*), *Cab. & Heine, Mus. Hein.* iv. p. 107 (1863); *Tristr. Cat. Coll.* p. 102 (1889).

Mulleripicus wallacei, *Tweedd. Ann. & Mag. Nat. Hist.* 1877, xx. p. 533; *Wardl.-Rams. Tweedd. Mem.* pp. 562, *App.* 667 (1881).

Alophonerpes wallacei, *Blas. in Madar. Zeitsch. für gesamm. Orn.* 1885, p. 236, pl. xi. ♂ ♀.

Adult male. Differs from *M. fulvus* in having the occiput and nape, as well as the top of the head, red, and this colour covering the whole of the face except a small space between the posterior part of the malar region and the occiput; the tail, both above and below, dusky or slaty black, and the shafts nearly black above and dusky below, especially at the tip. Total length 15 inches, culmen 1·9, wing 7·05, tail 6·05, tarsus 1·1; toes (without claws)—outer anterior 1·02, outer posterior 0·9, inner anterior 0·83, inner posterior 0·42.

Young male. Differs from the adult male in having less red on the side of the face, the red of the malar stripe clearly separated from this colour on the top of the head, the lores, orbital region, and

fore part of the ear-coverts being unspotted dusky grey, with a few of the feathers under the eye tinged with crimson; the spots on the hinder part of the face, side of the neck, and the hind neck slaty white, those upon the chin, throat, and fore neck more rounded and very minute, being reduced to mere specks; the ground-colour of the chin and throat is more dusky, as are also the sides of the body and the under tail-coverts; the chest and breast are likewise of a more dingy buff colour, and many of the feathers have dusky shaft-streaks; the shafts of the tail-feathers browner, and their bases very much paler.

Adult female. Differs from the adult male in the entire absence of red on the head, the whole of the head being dark slaty grey, the orbital region uniform, the remainder very minutely speckled with slaty white, and with larger and whiter longitudinal spots on the posterior part of the head. Total length 14·7 inches, culmen 1·55, wing 6·85, tail 5·85, tarsus 1·28.

Hab. South Celebes.

a, *b*. ♂ ♀ ad. sk.	Makassar.	Wallace Coll.
c, *d*. ♂ ♀ ad.; *e*. ♂ juv. sk.	Makassar (*A. R. Wallace*).	Gould Coll.
f, *g*. ♂ ♀ ad. sk.	Makassar (*A. R. Wallace*).	Tweeddale Coll. (Types of the species.)

3. Microstictus fuliginosus.

Mulleripicus fuliginosus, *Tweedd. Ann. & Mag. Nat. Hist.* 1877, xx. p. 534; *id. P. Z. S.* 1877, pp. 817, 821, pl. lxxxiii. ♂; *Wardl.-Rams. Tweedd. Mem.* pp. 543, 548, 562, *App.* 665, 667 (1881).

Adult male (type of species). Plumage slaty grey, the whole of the body, wings, and tail uniform, the head (except the loral and orbital region) and neck spotted with white, the spots on the top of the head and on the nape having a striped character, those on the chin and throat larger and more or less triangular in shape; a large patch of brilliant scarlet covers the entire malar region and extends upwards nearly to the eye; shafts of the quills and of the tail-feathers dusky black; "iris naples-yellow" (*Everett*). Total length 12 inches, culmen 1·6, wing 6·3, tail 4·35, tarsus 1·2; toes (without claws)—outer anterior 0·98, outer posterior 0·86, inner anterior 0·7, inner posterior 0·46.

Hab. N. Mindanao, Philippines.

a. ♂ ad. sk.	Butuan, Philippines, May (*A. H. Everett*).	Tweeddale Coll. (Type of species.)
b. ♂ ad. sk.	Surigao, May (*A. H. Everett*).	Tweeddale Coll.

4. Microstictus funebris.

Picus funebris, *Valenc. Dict. Sc. Nat.* xl. p. 179, ♀ (1826); *Drap. Dict. Class. d'Hist. Nat.* xiii. p. 497 (1828); *Sundev. Consp. Av. Picin.* p. 10 (1866).

Picus lichtensteini, *Wagl. Syst. Av.* Picus, sp. 31, ♀ (1827).

Picus modestus, *Vig. P. Z. S.* 1831, p. 98; *Less. Compl. Buff.* ix. p. 310, ♂ (1837).
Picus punctatus, *Less. Traité*, i. p. 230, ♀ (1831).
Hemilophus lichtensteiui, *Gray, Gen. B.* ii. p. 439 (1846) ; *Bp. Consp. Gen. Av.* i. p. 131 (1850); *Reichenb. Scans. Picinæ*, p. 386, no. 892, pl. dclxxix. figs. 4485–4486, ♂ ♀ (1854).
Hemilophus funebris, *Blyth, Cat. B. Mus. As. Soc.* p. 55, no. 247 (1849); *Gray, List Picid. Brit. Mus.* p. 84 (1868).
Lichtensteinipicus modestus, *Bp. Consp. Volucr. Zygod.* p. 7, no. 16 (1854).
Lichtensteinipicus lichensteini, *Gray, List Gen.* 1855, p. 93, *ex Bp.*
Dryopicus funebris, *Malh. Picidæ*, i. p. 54, pl. xv. figs. 1 ♂, 2 ♀ (1861).
Alophonerpes funebris, *Cab. & Heine, Mus. Hein.* iv. p. 107 (1863).
Campethera funebris, *Gray, Hand-l. B.* ii. p. 193, no. 2158 (1870).
Mulleripicus funebris, *Tweedd. Trans. Zool. Soc.* 1875, pp. 146, 249; *Sharpe, Trans. Linn. Soc.* 1877, p. 350, tab. no. 29; *Tweedd. Mem. ed. Wardl.-Ramsay*, pp. 313, 410, *App.* 655 (1881).

Adult male. General colour slaty black glossed with greenish blue; nasal plumes dusky black; forehead and fore part of the crown, loral and orbital regions, also the cheeks, dull crimson, this colour forming a complete mask; chin and throat brownish, and these, together with the whole of the neck, having minute rounded spots or specks of white, the hinder part of the head also minutely spotted with white, but the spots having a more pointed or elongated character; ear-coverts uniform; the breast and abdomen blackish brown without any gloss; under wing-coverts and axillaries of the same colour as the wings; shafts of quills and of tail-feathers slaty black. Total length 12·5 inches, culmen 1·55, wing 6·5, tail 5, tarsus 1·15; toes (without claws)—outer anterior 0·93, outer posterior 0·8, inner anterior 0·73, inner posterior 0·45.

Young male. More dusky in colour than the adult male, but similar in plumage, the spotting on the throat and side of the neck less distinct, these markings being almost obsolete on the nape and hind neck.

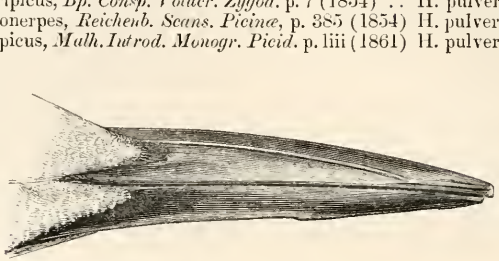
Adult female. Differs from the adult male in wanting the red on the head, those parts which are red in the male being uniform black glossed with bluish, except the malar region, which is minutely speckled with white. Total length 12·5 inches, culmen 1·5, wing 6·25, tail 4·95, tarsus 1·12.

Hab. Philippine Islands (Luzon and Calayan).

a, *b*. ♂ ♀ ad. st.	Philippines.	Purchased.
c. ♀ ad. sk.	Philippines.	Purchased.
d, *e*. ♂ ♀ ad. sk.	Philippines.	Tweeddale Coll.
f, *g*. ♂ ad. sk.	Philippines.	Gould Coll.
h. ♂ ad.; *i*, *k*. ♀ ad. sk.	Luzon, Jan., April (*A. B. Meyer*).	Tweeddale Coll.
l, *m*. ♂ ♀ ad. sk.	Manila (*Maitland Heriot*).	Tweeddale Coll.
n. ♂ ad. sk.	Manila.	Zoological Society.

41. HEMILOPHUS.

	Type.
Hemilophus, *Swains. Classif. B.* ii. p. 309 (1837)....	H. pulverulentus.
Mulleripicus, *Bp. Consp. Volucr. Zygod.* p. 7 (1854) ..	H. pulverulentus.
Alophonerpes, *Reichenb. Scans. Picinæ*, p. 385 (1854)	H. pulverulentus.
Macropicus, *Malh. Introd. Monogr. Picid.* p. liii (1861)	H. pulverulentus.



Bill of *Hemilophus pulverulentus.*

Range. Himalayan Provinces, west to Kumaon, east into Assam; through Burmah and into Cochin China, and south through the Malayan Peninsula into Sumatra, Java, and Borneo. Occurring also in the Island of Palawan.

1. Hemilophus pulverulentus.

Picus javensis ♀, *Horsf. Trans. Linn. Soc.* xiii. p. 176, ♂ (1822); *Lath. Hist. B.* iii. p. 353, ♂ (1822); *Steph. Gen. Zool.* xiv. p. 159, ♂ (1826).

Picus pulverulentus, *Temm. Pl. Col.* 389, ♂ (1826); *Vig. Mem. Raffl.* p. 669 (1830); *Less. Traité*, i. p. 222, ♂ (1831); *Sundev. Consp. Av. Picin.* p. 10 (1866).

Picus gutturalis, *Valenc. Dict. Sc. Nat.* xl. p. 178 (1826).

Picus mackloti, *Wagl. Syst. Av.* Picus, sp. 4 ♀ add., sp. 1 ♂ ad., ♀ imm. (1827); *id. Isis*, 1829, p. 508.

Picus horsfieldii, ♀, *Wagl. Syst. Av.* Picus, sp. 5, ♂ (1827).

Hemilophus pulverulentus, *Swains. Classif. B.* ii. p. 309 (1837); *Blyth, Cat. B. Mus. As. Soc.* p. 54, no. 244 (1849); *id. J. A. S. B.* 1854, p. 215; *Blanf. Ibis*, 1870, p. 464.

Hemilophus mackloti, *Gray, Gen. B.* ii. p. 439 (1846); *Bp. Consp. Gen. Av.* i. p. 131 (1850); *Reichenb. Scans. Picinæ*, p. 385, no. 889, pl. dcxliv. figs. 4300–01, ♂ ♀ (1854).

Hemilophus mülleri, *Bp. Consp. Gen. Av.* i. p. 131 (1850).

Mulleripicus pulverulentus, *Bp. Consp. Volucr. Zygod.* p. 7, no. 15 (1854); *Gray, Cat. Gen. B. Brit. Mus.* 1855, p. 93, no. 1576; *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 651 (1856–58); *Moore, P. Z. S.* 1859, p. 455; *Jerd. B. Ind.* i. p. 284 (1862); *Blyth, Ibis*, 1866, p. 355; *Jerd. op. cit.* 1872, p. 9; *Godw.-Aust. J. A. S. B.* 1874, p. 155; *Hume & Davison, Str. F.* vi. p. 133 (1878); *Hume, op. cit.* 1879, pp. 52, 87, no. 168; *Tiraut, Ois. B.-Cochinchine*, p. 89 (1879); *Bingh. Str. F.* 1880, pp. 141, 162, 472; *Kelh. Ibis*, 1881, p. 388; *Oates, Str. F.* x. p. 190 (1882); *Sharpe, Ibis*, 1888, p. 197.

Dryopicus gutturalis, *Malh. Picidæ*, i. p. 51, pl. xv. figs. 4 ♂ ad., 5 ♀ ad., 6 juv. (1861).
Alophonerpes gutturalis, *Cab. & Heine, Mus. Hein.* iv. p. 106 (1863); *Blyth & Wald. B. Burm.* p. 75 (1875).
Hemilophus gutturalis, *Gray, List Picid. Brit. Mus.* p. 83 (1868).
Campethera gutturalis, *Gray, Hand-l. B.* ii. p. 193, no. 8704 (1870).
Mulleripicus gutturalis, *Hume, Str. F.* 1874, p. 471; *id. & Oates, op. cit.* 1875, pp. 12, 66.
Alophonerpes pulverulentus, *Salvad. Ucc. Born.* p. 51 (1874); *Wardl.-Rams. Ibis*, 1877, p. 457; *Sharpe, op. cit.* 1879, p. 242; *id. P. Z. S.* 1879, p. 326, 1881, p. 792; *Oates, B. Brit. Burm.* ii. p. 29 (1883); *Vorderm. Over. Nat. Tijds. Nederl. Ind.* xliv. p. 191 (1884).
Hemilophus fischeri, *Brügg. Abhandl. nat. Ver. Brem.* 1877, p. 454 (juv.).

Adult male. Entire upper parts, wings, and tail uniform blackish slate-colour; shafts of quills and of rectrices black; nasal plumes, entire head, hind neck, and sides of the neck of a lighter slate-colour than the upper parts, the forehead and sides of the face uniform, the feathers of the crown, hind neck, and sides of the neck covered with greyish-white spots and having a powdered appearance; a pale red malar patch; chin, throat, and fore neck ochreous saffron-yellow, the feathers having reddish tips, the latter colour increasing in intensity on the fore neck; the lower feathers of the fore neck ashy at the base, the tips pale reddish; under surface of the body and under tail-coverts blackish slate-colour, the feathers having a paler spot at the tip; the lower abdominal, as well as the vent-feathers, varied with buffy-whitish tips; under wing-coverts and axillaries dark slate-colour: "bill bluish white, blackish along culmen and at the tips of both mandibles; the inside of the mouth bluish black; eyelids dusky plumbeous; iris very dark hazel-brown; legs a deep dull blue; claws bluish horny" (*Oates*). Total length 17·5 inches, culmen 2·8, wing 9·05, tail 5·8, tarsus 1·52; toes (without claws)—outer anterior 1·2, outer posterior 0·95, inner anterior 0·9, inner posterior 0·62.

Young male. Differs from the adult male in having the entire malar region, forehead, and greater part of the crown washed with pale crimson, this colour being very faint upon the crown; the head darker slaty grey and the tips of the feathers less white; upper parts rather browner; the under surface of the body unspotted; the abdomen, sides of the body, and under tail-coverts more of a dusky brown, but assuming the dark slaty-grey plumage; chin, throat, and fore neck light buff, the latter washed with pale red. It has also a pale crimson stripe, rather than a spot, on the hinder part of the malar region, as in the adult.

Adult female. Differs from the adult male in the absence of the red malar patch; the feathers of the chin and throat bright ochreous saffron-yellow, without reddish tips; the fore neck slightly washed with reddish. "The soft parts the same as in the male." (*Oates.*) Total length 17 inches, culmen 2·8, wing 8·8, tail 5·9, tarsus 1·52.

Hab. Sub-Himalayan Provinces, west to Kumaon (probably further), east into Assam, south through British and Native Burmah,

and ranging into Lower Cochin China; the Malayan Peninsula, Sumatra *, Java, and Borneo.

a. ♂ ad.; *b*, *c*. ♀ imm. sk.	Oudh Terai.	Pinwill Coll.
d, *e*. ♂ ad. sk.	Oudh Terai, Jan., Feb.	Hume Coll.
f. ♀ ad. sk.	Fyzabad, Oudh, June 4, 1872.	Hume Coll.
g. ♀ ad. sk.	Rangeet River, Native Sikhim, June (*L. Mandelli*).	Hume Coll.
h. ♀ ad. sk.	Assam (*A. W. Chennell*).	Tweeddale Coll.
i. ♂ ad.; *k*. ♀ imm. sk.	Assam.	Gould Coll.
l. ♀ ad. sk.	Arakan Hills, Pegu, Jan. 1872.	Hume Coll.
m, *n*. ♀ ad. sk.	Tonghoo, Feb. (*R. G. W. R.*).	Tweeddale Coll.
o. ♂ ad. sk.	Tenasserim, Jan. (*W. Limborg*).	Tweeddale Coll.
p, *q*, *r*. ♂ ad.; *s*, *t*. ♀ ad. sk.	Pahpoon, Jan., Feb., June (*W. Davison*).	Hume Coll.
u, *v*. ♂ ♀ ad. sk.	Younzaleen Creek, Feb. (*W. Davison*).	Hume Coll.
w. ♂ ad. sk.	Lathorgee, Myawadee, Jan. (*W. Davison*).	Hume Coll.
x. ♂ ad. sk.	Thatone, Jan. (*W. Davison*).	Hume Coll.
y, *z*. ♂ ♀ ad. sk.	Thoungyeen Valley, Feb., Oct. (*C. T. Bingham*).	Hume Coll.
a'. ♀ ad. sk.	Amherst, March (*J. Armstrong*).	Hume Coll.
b'. ♂ ad. sk.	Yeaboo, Dec. (*J. Darling*).	Hume Coll.
c'. ♂ ad. sk.	Tavoy (*W. Davison*).	Hume Coll.
d'. ♀ ad. sk.	Pakchan, Jan. (*W. Davison*).	Hume Coll.
e'. ♂ ad.; *f'*, *g'*. ♀ ad. sk.	Bankasoon, March, June (*W. Davison*).	Hume Coll.
h', *i'*, *k'*. ♂ ad. sk.	Malewoon, Jan. (*W. Davison*).	Hume Coll.
l'. ♂ ad. sk.	Katoung, Victoria Point, March (*W. Davison*).	Hume Coll.
m'. ♂ ad. sk.	Cochin China.	Tweeddale Coll.
n', *o'*. ♂ ♀ ad. sk.	Tapraw, Island of Salanga, April (*J. Darling*).	Hume Coll.
p'. ♀ ad. sk.	Penang (*Dr. Cantor*).	India Museum.
q', *r'*. ♂ ad.; *s'*. ♀ ad. sk.	Klang, Salangore, May, July (*W. Davison*).	Hume Coll.
t'. ♂ ad. sk.	Ulu Langhat, June (*W. Davison*).	Hume Coll.
u'. ♂ ad. st.	Malacca.	Earl of Ellenborough [P.].
v'. ♀ ad. st.	Malacca.	
w', *x'*. ♂ ♀ ad. sk.	Malacca.	Gould Coll.
y'. ♂ juv. sk.	Malacca.	Wallace Coll.
z'. ♀ ad. sk.	Malacca, July (*W. Davison*).	Hume Coll.
a''. ♂ imm. sk.	Malacca (*Dr. Cantor*).	India Museum.
b'', *c''*. ♂ ♀ ad. sk.	Malacca, Aug. (*R. G. W. R.*).	Tweedale Coll.
d''. ♂ ad. sk.	Johore, Aug. (*W. Davison*).	Hume Coll.
e''. ♀ ad sk.	Sumatra.	
f'', *g''*. ♂ ad. sk.	Java (*Horsfield*).	India Museum.
h'', *i''*. ♂ ♀ ad. sk.	E. Java.	Wallace Coll.
k''. ♂ ad. sk.	Sarawak, Sept. (*A. H. Everett*).	Hume Coll.
l''. ♂ ad. sk.	Labuan (*H. T. Ussher*).	Tweeddale Coll.

* A specimen in the Collection bears this locality, but no authority is given.

42. THRIPONAX.

Type.
Thriponax, *Cab. & Heine, Mus. Hein.* iv. p. 105 (1863) .. T. javensis.

Range. Burmese Provinces, Siam and Cochin China; through the Malayan Peninsula into Sumatra, Bangka, Java, Borneo, and the Philippines; north into Corea and the island of Tzus Sima. To the westward, occurring in the southern part of India and in the Andaman Islands.

Key to the Species.

A. With red on the head.
  a'. With no white on the upper parts.
    a''. With more or less white on the underparts.
      a'''. Chest and upper breast black; throat and fore neck black, striped with white.
        a^1. Top of the head, crest, and malar stripe red ..... *javensis* ♂ ad., p. 499.
        b^1. Crest (only) red; no red malar stripe. *javensis* ♀ ad., p. 499.
      b'''. Chest-feathers with black centres and broad white margins; throat and fore neck white, striped with black.
        c^1. Top of the head, crest, and malar stripe red ..... *pectoralis* ♂ ad., p. 500.
        d^1. Crest (only) red; no red malar stripe *pectoralis* ♀ ad., p. 501.
      c'''. Breast having a lunulate patch of slate-colour, with small dark waves; top of the head and crest red; no red malar stripe..... *crawfurdi*, p. 501.
    b''. With no white on the underparts.
      d'''. Top of the head, crest, and malar stripe red ..... *hodgii* ♂ ad., p. 502.
      e'''. Crest (only) red; no red malar stripe.. *hodgii* ♀ ad., p. 502.
  b'. With white on the upper parts.
    c''. With a belt of white across the middle of the underparts; throat and fore neck uniform black; the primaries not tipped with white.
      f'''. Top of the head, crest, and malar stripe red..... *hodgsoni* ♂ ad., p. 503.
      g'''. Crest (only) red; no red malar stripe. *hodgsoni* ♀ ad., p. 503.
    d''. The white on the underparts extending from below the chest to the vent; throat varied with white; outer primaries tipped with white.
      h'''. Inner webs of the primaries, as well as of the secondaries, white at the base for a third (more or less) of their length.
        e^1. Outer primaries with only a small apical spot of white.
          a^5. Top of the head, crest, and malar stripe red ..... *feddeni* ♂ ad., p. 504.

b^5. Crest (only) red; no red malar stripe. ..... *feddeni* ♀ ad., p. 504.

f^4. Outer primaries with a conspicuous apical white patch, the extent on the outer web of the third feather beiug 0·95 inch; top of the head, crest, and malar stripe red ..... *kalinowskii* ♂ ad., [p. 505.

i'''. Primaries not white at the base.

g^4. Top of the head, crest, and malar stripe red ..... *hargitti* ♂ ad., p. 505.

h^4. Crest (only) red; no red malar stripe. *hargitti* ♀ ad., p. 506.

B. With no red on the head.

c'. Outer primaries with only a small spot of white at the tip ..... *richardsi* ♀ ad., p. 506.

d'. Outer primaries with a conspicuous apical patch of white, the extent on the outer web of the third feather being about an inch .. *kalinowskii* ♀ ad., [p. 505.

1. Thriponax javensis.

Picus javensis, *Horsf. Trans. Linn. Soc.* xiii. p. 175 (1822), ♂; *Steph. Gen. Zool.* xiv. p. 159 (1826), ♂; *Vig. Mem. Raffl.* p. 668 (1830).

Picus leucogaster, *Valenc. Dict. Sc. Nat.* xl. p. 178 (1826), ♀; *Wagl. Syst. Av.* Picus, sp. 7, ♀ (1827); *id. Isis*, 1829, p. 509, ♂; *Temm. Pl. Col.* iv. pl. 501, ♂ (1838); *Sundev. Consp. Av. Picin.* p. 9 (1866).

Picus horsfieldii, *Wagl. Syst. Av.* Picus, sp. 5, ♂ (1827).

Dryocopus javensis, *Boie, Isis*, 1828, p. 326.

Dryocopus leucogaster, *Boie, Isis*, 1828, p. 326.

Picus fulvigaster, *Drap. Dict. Class. d'Hist. Nat.* xiii. p. 503 (1828) *.

Picus maximus malayensis, *Bland, J. A. S. B.* vi. p. 952 (1837).

Hemilophus leucogaster, *Gray, Gen. B.* ii. p. 439 (1846), ♀.

Hemilophus javensis, *Gray, Gen. B.* ii. p. 439 (1846), ♂; *Blyth, Cat. B. Mus. As. Soc.* p. 55 (1849); *Bp. Consp. Gen. Av.* i. p. 131 (1850); *id. Consp. Volucr. Zygod.* p. 7 (1854); *Reichenb. Scans. Picinæ*, p. 386, no. 894, pl. dcxlv. figs. 4306–4307, ♂ ♀ (1854); *Motley & Dillw. Contr. Nat. Hist. Labuan*, p. 29 (1855); *Sclat. P. Z. S.* 1863, p. 211; *Gray, List Picid. Brit. Mus.* p. 85 (1868); *Stoliczka, J. A. S. B.* 1870, p. 290; *Brügg. Abhandl. nat. Ver. Bremen*, 1878, p. 531.

Dryopicos leucogaster, *Malh. Mém. Acad. Metz*, 1848–49, p. 322.

Mulleripicus javensis, *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 652, no. 946 (1856–58); *Jerd. B. Ind.* i. p. 285 (1862).

Dryopicus leucogaster, *Malh. Picidæ*, i. p. 47, pl. xiii. figs. 4, 5, ♂ ♀ (1861).

Thriponax javensis, *Cab. & Heine, Mus. Hein.* iv. p. 105 (1863); *Salvad. Ucc. Born.* p. 52 (1874); *Sharpe, P. Z. S.* 1875, p. 103; *Hume, Str. F.* 1875, p. 319; *Tweedd. Ibis*, 1877, p. 288; *id. P. Z. S.* 1877, pp. 689, 821; *Hume & Davison, Str. F.* vi. p. 135 (1878); *Hume, op. cit.* 1879, pp. 52, 87; *Sharpe, Ibis*, 1879, p. 243; *Tweedd. P. Z. S.* 1879, p. 69; *Sharpe, tom. cit.* p. 326; *Nicholson, Ibis*, 1881, p. 141; *Kelham, tom. cit.* p. 388; *Sharpe, P. Z. S.* 1881, p. 792; *Müll. Orn. Ins. Sulanga*, p. 72 (1882); *Nicholson, Ibis*,

* Evidently the present species, but with a mistake in the measurement.

1882, p. 54 : *id. op. cit.* 1883, p. 89 ; *Oates, B. Brit. Burm.* ii. p. 27 (1883) ; *Kütter, J. f. O.* 1883, p. 295 ; *Blas. Verhandl. zool.-bot. Gesellsch. Wien*, 1883, p. 30 ; *Vorderm. List B. Java*, no. 61 (1884) ; *Hargitt, Ibis*, 1885, p. 145.

Campethera javensis, *Gray, Hand-l. B.* ii. p. 193, no. 8707 (1870).

Adult male. Entire back, scapulars, wings, rump and upper tail-coverts, tail, likewise the shafts of quills and of tail-feathers, black, the outermost primaries with only a spot of white at the extreme base of the inner webs, the secondaries having their inner webs white at the base for about an inch of their length ; nasal plumes black ; forehead, crown, occipital crest, and broad malar patch crimson, the feathers of the forehead and crown having greyish bases, those of the occipital crest being white at the extreme base ; face and entire neck, chin, throat, chest, and breast black ; under and behind the ear-coverts, also the chin and upper throat, varied with narrow and short white striations ; abdomen, sides of the body, flanks, and thighs buffy white or pale buff, the thigh-feathers having a broad subterminal black band ; vent and under tail-coverts black ; outer under wing-coverts black, the inner ones buffy white ; axillaries buffy white. Total length 17 inches, culmen 2·2, wing 8·7, tail 6·3, tarsus 1·3 ; toes (without claws)—outer anterior 1·05, outer posterior 0·95, inner anterior 0·78, inner posterior 0·52.

Immature male. Has the bases of the feathers of the forehead and crown sooty black ; the red on the malar region duller, and the feathers of the chin and throat and behind the ear-coverts conspicuously white. In other respects it resembles the adult of the same sex.

Adult female. Differs from the adult male in having the forehead and crown black, the occipital and nuchal crest, alone, being crimson. Total length 16 inches, culmen 2·1, wing 8·75, tail 6·2, tarsus 1·22.

Fledgling female. Resembles the adult of the same sex in the disposition of the red on the head, but it is bright scarlet, not crimson. As in the immature male, there is also more white on the chin and throat and behind the ear-coverts.

The soft parts in this species are as follows :—"Legs and feet pale plumbeous to leaden blue ; iris creamy white, creamy yellow, clear yellow ; orbital skin very dark plumbeous ; bill black, lower mandible plumbeous blue to dusky plumbeous" (*W. Davison*).

This species probably interbreeds with *Th. feddeni*, as I have seen an adult bird from Malewoon having the rump-feathers white with a subterminal band of black.

Hab. South Tenasserim : Malayan Peninsula : the islands of Sumatra, Bangka, Java, Borneo, and the following of the Philippine islands :—Luzon, Negros, Surigao, Mindanao, and Basilan.

a. ♀ ad. sk.	Laynah, Tenasserim, May 27, 1875 (*W. Davison*).	Hume Coll.
b, c. ♂ ad. ; *d, e.* ♀ ad. sk.	Bankasoon, Dec., Feb., May (*W. Davison*).	Hume Coll.
f. ♀ ad. sk.	Malewoon, Dec. 10, 1875 (*W. Davison*).	Hume Coll.

g, h. ♂ ♀ ad. sk.	Dingding Islands, March 1879 (*W. Davison*).	Hume Coll.
i, k. ♂ ♀ ad.; *l.* ♂ juv. sk.	Klang, Salangore, Aug. 1879 (*W. Davison*).	Hume Coll.
m. ♀ ad. st.	[Malacca.]	Earl of Ellenborough.
n. ♂ ad. st.	Malacca.	J. R. Reeves, Esq. [P.].
o. ♂ ad.; *p, q.* ♀ ad. sk.	Malacca, July, Aug. (*W. Davison*).	Hume Coll.
r, s. ♂ ad.; *t.* ♀ ad. sk.	Malacca, Aug.	Tweeddale Coll.
u. ♀ ad. sk.	Malacca (*Dr. Cantor*).	Indian Museum.
v, w. ♂ ♀ ad. sk.	Pulo Seban, Malacca, Nov. 12, 1875 (*W. Davison*).	Hume Coll.
x. ♀ ad. sk.	Kuroo, Malacca, Nov. 5, 1875 (*W. Davison*).	Hume Coll.
y. ♂ juv. sk.	Jaffaria, Johore, March 17, 1880 (*W. Davison*).	Hume Coll.
z–e'. ♂ ad.; *f'.* ♀ ad. sk.	Gunnong, Pulai, Johore, March, July, Aug. (*W. Davison*).	Hume Coll.
g'. ♂ ad.; *h', i'.* ♀ ad. sk.	Lampong, Sumatra (*E. C. Buxton*).	Tweeddale Coll.
k'. ♂ ad. sk.	Java (*Horsfield*).	India Museum. (Type of species.)
l'. ♂ ad. sk.	Java.	Purchased.
m'. ♂ ad. sk.	E. Java.	Wallace Coll.
n'. ♂ ad. sk.	E. Java (*A. R. Wallace*).	Tweeddale Coll.
o'. ♂ ad. sk.	Borneo.	Rajah Brooke [P.].
p'. ♂ ad. sk.	Sarawak.	Tweeddale Coll.
q'. ♂ imm. sk.	Sarawak.	Wallace Coll.
r'. ♂ imm. sk.	Labuan.	R. B. Sharpe, Esq. [P.].
s', t'. ♂ ad. sk.	Zamboanga, Mindanao, Mar., April 1878 (*A. Everett*).	Tweeddale Coll.
u', v'. ♂ ♀ ad. sk.	Surigao, March 1877 (*A. Everett*).	Tweeddale Coll.
w'. ♀ juv. sk.	Basilan, May 1873 (*A. Everett*).	Tweeddale Coll.
x'. ♀ ad. sk.	Negros.	Prof. J. B. Steere [C.].
y'. ♂ ad. sk.	Monte Alban, Luzon, March 1877 (*A. Everett*).	Tweeddale Coll.
z', a''. ♂ ad.; *b''.* ♀ ad. sk.	Luzon, Jan., April (*A. B. Meyer*).	Tweeddale Coll.
c''. ♀ ad. sk.	Manila (*Maitland Heriot*).	Tweeddale Coll.
d'', e''. ♂ ♀ ad. sk.	Manila.	Gould Coll.

2. **Thriponax pectoralis.** (Plate XIII.)

Thriponax pectoralis, *Tweedd. P. Z. S.* 1878, pp. 340, 379; *Wardl.-Ramsay, Tweedd. Mem.* p. 596, *& App.* pp. 655, 670 (1881); *Harg. Ibis*, 1885, p. 143.

Adult male. Resembles *Th. javensis* in having the upper parts entirely black, but differs from that species in having the chin, throat, fore neck, the feathers above and behind the ear-coverts and also behind the malar region white striped with intense black; the

feathers of the chest very broadly margined with creamy white, the centres alone being black, which produces a squamate appearance; some of the breast-feathers are striped with black; the under wing-coverts are similar to those of *Th. javensis*, but the black edge of the wing is covered with rounded spots of white. Total length 16·5 inches, culmen 1·9, wing 7·9, tail 6·65, tarsus 1·35; toes (without claws)—outer anterior 1·1, outer posterior 0·95, inner anterior 0·82, inner posterior 0·53.

Young male. Differs from the adult of the same sex in having the white of the throat and fore neck duller, and the striations less intense black; the feathers of the malar region white, with dusky bases, a few assuming the red tips.

Adult female. Has the forehead and crown black; the malar region white striped with black. In other respects like the adult male. Total length 16·5 inches, culmen 1·9, wing 7·85, tail 6·65, tarsus 1·35.

Hab. The islands of Leyte and Panaon, Philippine group.

a, *b* ♂ ♀ ad. sk.	South Leyte, Philippines, Sept. 1877 (*A. H. Everett*).	Tweeddale Coll. (Types of species.)
c ♂ juv. sk.	Leyte, July 1877 (*A. H. Everett*).	Tweeddale Coll.
d ♂ ad. sk.	Panaon, Oct. 1877 (*A. H. Everett*).	Tweeddale Coll.

3. Thriponax crawfurdi.

Picus crawfurdii, *Gray in Griffith's Cuv. Anim. Kingd., Birds*, ii. p. 513, fig. (1829).
Dryopicus leucogaster (pt.), *Malh. Picidæ*, i. p. 47 (1861).
Thriponax javensis (pt.), *Cab. & Heine, Mus. Hein.* iv. p. 105 (1863).
Hemilophus javensis (pt.), *Gray, List Picid. Brit. Mus.* p. 85 (1868).
Picus leucogaster (pt.), *Giebel, Thes. Orn.* iii. p. 162 (1876).
Thriponax crawfurdi, *Hume, Str. F.* 1879, pp. 87 and 409, 410 (note); *Hargitt, Ibis*, 1885, p. 149.

The following is the description given by Gray in Griffith's edition of 'Cuvier's Animal Kingdom,' Birds, ii. p. 513 (1829), along with a figure:—

"Crawfurd's Woodpecker is from an Indian drawing brought to this country by Mr. Crawfurd, jun. The whole upper part (except the crest) is deep dark brown, sprinkled with grey on the sides of the neck; across the breast is a large lunule patch of slate-colour, with small dark waves; the belly is yellow, with the like crescent-shaped spots, and the crest is deep red."

The present species is only known from Gray's description, and the figure (above referred to) which was taken from nature by an Indian artist for Mr. Crawfurd, jun. Many authors have confounded *Th. crawfurdi* with *Th. javensis*, and also with *Th. feddeni*; but as the bird described and figured by Gray is evidently a male,

the slate-coloured patch on the breast, as well as the absence of the red malar stripe, clearly distinguish it from *Th. javensis*, while the black rump alone would show that it was not *Th. feddeni*.

Hab. Probably Ava *, Native Burmah.

4. Thriponax hodgii.

Mulleripicus hodgei, *Blyth, J. A. S. B.* 1860, p. 105; *Jerd. B. Ind.* i. p. 285 (1862); *Beavan, Ibis*, 1867, pp. 320, 334; *Ball, J. A. S. B.* xxxix. pt. 2, p. 241 (1870); *id. op. cit.* xli. pt. 2, p. 279 (1872); *id. Str. F.* 1873, p. 63.

Thriponax hodgei, *Cab. & Heine, Mus. Hein.* iv. p. 106 (1863); *Wald. Ibis*, 1873, p. 301; *Hume, Str. F.* 1874, p. 189, 1879, p. 87; *Hargitt, Ibis*, 1885, p. 142.

Picus hodgei, *Sunder. Consp. Av. Picin.* p. 9 (1866).

Hemilophus hodgei, *Gray, List Picid. Brit. Mus.* p. 86 (1868).

Campethera hodgei, *Gray, Hand-l. B.* ii. p. 194, no. 8710 (1870).

Adult male. Forehead, crown, and elongated occipital crest bright scarlet; the malar stripe also scarlet, but duller in colour; the remainder of the plumage dull black; shafts of quills and of tail-feathers black. Total length 15 inches, culmen 1·87, wing 7·2, tail 5·65, tarsus 1·3; toes (without claws)—outer anterior 0·95, outer posterior 0·85, inner anterior 0·72, inner posterior 0·45.

Adult female. Differs from the adult male in having the forehead and crown black, the occipital crest alone being scarlet, and also in the absence of the red malar patch. Total length 15 inches, culmen 1·75, wing 7·2, tail 5·4, tarsus 1·2.

Mr. Hume gives the soft parts of this species as follows:—"Legs, feet, and claws blackish plumbeous; bill black in some specimens, but not in all, whitish and semitransparent at the tip; irides yellowish white to pale yellow."

Hab. Confined to the Andaman Islands.

a, b, c. ♂ ad. et imm.; *d–h.* ♀ ad. et imm. sk.	S. Andamans, Dec., Jan., Feb., March (*R. G. W. R.*).	Tweeddale Coll.
i, k, l. ♀ ad. sk.	S. Andamans, Aug., Sept. (*R. J. Wimberley*).	Hume Coll.
m, n, o. ♂ ad. et imm.; *p, q.* ♀ imm. sk.	Mt. Harriet, S. Andamans, Jan., March (*W. Davison*).	Hume Coll.
r. ♂ ad.; *s, t.* ♀ ad. sk.	Port Mouat, S. Andamans, Jan. (*W. Davison*).	Hume Coll.
u, v. ♂ ad. et imm.; *w.* ♀ ad. sk.	Aberdeen, S. Andamans, Dec., May, Sept. (*W. Davison*).	Hume Coll.
x. ♂ ad. sk.	Port Blair, S. Andamans, Aug.	Hume Coll.
y. ♂ ad. sk.	[Nicobar.]	Tweeddale Coll.

* Mr. Crawfurd, for whom the drawing of this species was made, was resident in this city.

5. Thriponax hodgsoni.

Hemilophus hodgsoni, *Jerd. Madr. Journ.* ser. 1, xi. p. 215 (1840); *Gray, Gen. B.* ii. p. 432 (1846); *Blyth, J. A. S. B.* xv. p. 283 (1846); *id. Cat. B. Mus. As. Soc.* p. 55, no. 245 (1849); *Bp. Consp. Gen. Av.* i. p. 131 (1850); *id. Consp. Volucr. Zygod.* p. 7 (1854); *Reichenb. Scans. Picinæ*, p. 386, no. 895, pl. dcxlv. fig. 4308, ♂ (1854); *Gray, List Picid. Brit. Mus.* p. 85 (1868).

? Picus leucogaster, *Blyth, J. A. S. B.* 1842, p. 464.

Picus hodgsonii, *Jerd. Ill. Ind. Orn.* pl. v. ♂ (1847); *Sundev. Consp. Av. Picin.* p. 9 (1866).

Dryopicos hodgsonii, *Malh. Mém. Acad. Metz*, 1848–49, p. 322.

Dryopicus hodgsoni, *Malh. Picidæ*, i. p. 49, pl. xiii. figs. 1, 2, ♂ ♀ (1861).

Mulleripicus hodgsoni, *Jerd. B. Ind.* i. p. 284 (1862).

Thriponax hodgsoni, *Cab. & Heine, Mus. Hein.* iv. p. 105 (1863); *Hume, Str. F.* 1876, p. 390, 1879, p. 87; *Butler, op. cit.* 1880, p. 386; *id. Cat. Birds Bomb. Pres.* p. 23 (1880); *Davison, Str. F.* 1883, x. p. 355; *Hargitt, Ibis*, 1885, p. 150.

Campethera hodgsonii, *Gray, Hand-l. B.* ii. p. 193, no. 8708 (1870).

Adult male. Plumage black, with the following exceptions:—the rump white; breast and upper part of abdomen, as well as the sides of the body, buffy white; the feathers of the lower part of the abdomen margined at the tip with buffy white; forehead, crown, occipital and nuchal crest, likewise the malar stripe, crimson, the bases of the feathers of the occiput and nape creamy white; a few white streaks behind the ear-coverts; primaries with a concealed white spot at the base, the secondaries having their basal portion white for an inch or an inch and a half, at most, of their length; under wing-coverts and axillaries buffy white; shafts of quills and of tail-feathers black: "bill black; legs dark plumbeous; irides crimson" (*Jerdon*). Total length 18 inches, culmen 2·6, wing 8·7, tail 7·2, tarsus 1·42; toes (without claws)—outer anterior 1, outer posterior 0·8, inner anterior 0·8, inner posterior 0·5.

Adult female. Differs from the adult male in the absence of red on the forehead, crown, and malar region, the occipital and nuchal feathers alone being crimson. Total length 17·5 inches, culmen 2·35, wing 8·55, tail 6·7, tarsus 1·35.

Hab. Southern India, extending as far north as Belgaum.

a. ♀ ad. sk.	S. India.	Zool. Soc.
b, *c*. ♂ ♀ ad. sk.	Mynall, Travancore, Dec. 8, 1874 (*F. Bourdillon*).	Hume Coll.
d. ♀ ad. sk.	Mynall, Travancore, Nov. 26, 1879.	F. Bourdillon, Esq. [C.].
e. ♂ ad. sk.	Madras.	Sir W. Elliott [P.].
f, *g*. ♀ imm. sk.	Wynaad.	Hume Coll.
h. ♀ ad. sk.	Khandeish.	Tweeddale Coll.

6. Thriponax feddeni.

Mulleripicus feddeni, *Blanf. J. A. S. B.* 1863, p. 75; *Blyth, Ibis*, 1870, p. 163.
Thriponax jerdoni, *Cab. & Heine, Mus. Hein.* iv. p. 105 (1863).
Picus jerdoni (*ex Cab. & Heine*), *Sundev. Consp. Av. Picin.* p. 9 (1866).
Hemilophus feddeni, *Gray, List Picid. Brit. Mus.* p. 86 (1868).
Campethera crawfurdi, *Gray, Hand-l. B.* ii. p. 194, no. 8709 (1870).
Thriponax feddeni, *Wald. Ibis*, 1871, p. 164; *Bingham, Str. F.* 1879, p. 194; *Hume, tom. cit.* pp. 87 & 409; *Bingham, op. cit.* 1880, p. 162; *Oates, op. cit.* x. p. 190 (1882); *id. B. Brit. Burm.* ii. p. 28 (1883); *Hargitt, Ibis*, 1885, p. 152; *Salvad. Ann. Mus. Civ. Stor. Nat. Genova*, 1887, p. 578.
Thriponax crawfurdi (*non Gray*), *Hume, Str. F.* 1874, p. 471; *id. & Oates, op. cit.* 1875, pp. 14, 66; *Blyth & Wald. B. Burm.* p. 75 (1875); *Hume & Davison, Str. F.* vi. p. 134 (1878).

Adult male. Resembles *Th. hodgsoni*, but differs in having a considerable amount of white on the base of the inner webs of all the quills, this on the outer primaries and on the secondaries extending for about two inches, and on the inner primaries occupying a space of about three and a half inches; the outer primaries tipped with a white spot; the white on the underparts more extended: the red on the top of the head and on the malar region more scarlet; the chin and throat as well as behind the ear-coverts striped with white. Total length 15 inches, culmen 2·05, wing 8·45, tail 5·7, tarsus 1·25; toes (without claws)—outer anterior 0·95, outer posterior 0·85, inner anterior 0·72, inner posterior 0·5.

Adult female. Differs from the adult male in having the forehead and the greater part of the crown, also the malar region, black. Total length 15 inches, culmen 1·85, wing 8·2, tail 6, tarsus 1·25.

Young. Resemble the adult of their respective sexes, except that in the early stage of the male the malar region is devoid of red, the feathers next assume dull red tips; the chin and throat are conspicuously white, with dusky black stripe-like spots.

The soft parts in this species are as follows: "iris yellow; eyelids lavender-brown; legs plumbeous; claws horny-grey; bill bluish black, darkest on the upper mandible and palest on the lower near the base" (*E. W. Oates*).

Hab. British Burmah, as far south as Lathorgee, Tenasserim; Siam, and extending into Cochin China.

a. ♂ ad. sk.	Pegu, Burmah.	W. T. Blanford, Esq. [P.].
b. ♀ ad. sk.	Thayetmyo, Sept. 1874 (*R. G. W. R.*).	Tweeddale Coll.
c, d. ♂ ♀ ad. sk.	Thayetmyo, Feb. 1873 (*E. W. Oates*).	Hume Coll.
e. ♂ ad. sk.	Arakan Hills, June 1873 (*E. W. Oates*).	Hume Coll.
f, g. ♂ ad.; *h, i.* ♀ ad. sk.	Tonghoo, Oct., Nov., Dec. (*R. G. W. R.*).	Tweeddale Coll.
k. ♀ ad. sk.	Meetan, Tenasserim, Feb. 2, 1877 (*Limborg*).	Tweeddale Coll.

l. ♀ ad. sk.	Meklong, Siam.	H. C. V. Hunter, Esq. [P.].
m, n. ♂ ♀ ad. sk.	Kaukaryit, Houngthraw R., Aug. 1879 (*C. T. Bingham*).	Hume Coll.
o. ♀ ad. sk.	Kyouk-nyat, Feb. 1, 1874 (*W. Davison*).	Hume Coll.
p. ♀ ad. sk.	Pahpoon, Jan. 17, 1874 (*W. Davison*).	Hume Coll.
q. ♀ ad. sk.	Pymina-ban, Jan. 2, 1878 (*W. Davison*).	Hume Coll.
r, s. ♂ ad.; *t.* ♀ ad. sk.	Thamban, Thatone, Nov., Jan. 18, 1878 (*W. Davison*).	Hume Coll.
u. ♂ ad. sk.	Wimpong, Dec. 23, 1876 (*W. Davison*).	Hume Coll.
v. ♂ ad. sk.	Lathorgee, Jan. 22, 1877 (*W. Davison*).	Hume Coll.

7. Thriponax kalinowskii.

Thriponax kalinowskii, *Tacz. P. Z. S.* 1887, p. 607, 1888, p. 467.

Adult male. Resembles *Th. feddeni*, but may be distinguished by the conspicuous white tips to some of the primaries. According to Dr. Taczanowski, the five outer quills are tipped with white, the bastard quill having only a small terminal spot, while the third has the outer web white to the extent of 0·95 inch and the inner web to about 0·4; on the fourth quill the white does not attain an extent of more than 0·7. There is rather less white at the base of the quills: "in the 1st and 2nd it occupies more than the basal $\frac{1}{3}$, in the 3rd the basal $\frac{1}{4}$ is white, and in the secondaries the white is equally distributed" (*Taczanowski, MS.*). The measurements reduced to inches are: "Total length 19·5 inches, wing 9·65, tail 6·8, bill to gape 2·53, tarsus 1·2; toes (without claws)—outer anterior 1·07, outer posterior 0·66; tail exceeding the end of the wing by 3·5" (*Taczanowski*). The soft parts are as follows: "bill black; feet blackish: iris pale yellow" (*Kalinowski*).

Adult female. "Differs from the adult male in the complete absence of red on the head. Total length 17·85 inches, wing 9·85, tail (2)?, bill 2·68, tarsus 1·22" (*Taczanowski*). "Iris yellowish white" (*Kalinowski*).

Hab. Corea (Séoul and Siongno).

8. Thriponax hargitti.

Thriponax javensis (pt.), *Sharpe, Trans. Linn. Soc.* 2nd ser. *Zool.* i. p. 314 (1876).

Thriponax hargitti, *Sharpe, Ibis*, 1884, p. 317, pl. viii.; *Harg. op. cit.* 1885, p. 115; *Sharpe, op. cit.* 1888, p. 197.

Adult male. Resembles *Th. feddeni*, but may be distinguished by the absence of white at the base of the primaries; the apical white spot is either very much smaller or entirely wanting. Total length 15·5 inches, culmen 2·15, wing 8·4, tail 6·4, tarsus 1·35; toes (without claws)—outer anterior 1·05, outer posterior 0·95, inner anterior 0·82, inner posterior 0·53.

Adult female. Has the forehead and greater part of the crown, also the malar region, black, the occipital and nuchal crest alone being scarlet. Total length 15·5 inches, culmen 1·9, wing 8·2, tail 6·1, tarsus 1·3.

Hab. Palawan.

a, b. ♂ ♀ ad. sk.	Palawan.	E. Lemprière [C.]. (Types of species.)
c. ♀ ad. sk.	Palawan.	Prof. J. B. Steere [C.].
**d, e.* ♂ ♀ ad. sk.	[Manila.]	Gould Coll.

9. Thriponax richardsi.

Dryocopus richardsi, *Tristram, P. Z. S.* 1879, p. 386, pl. xxxi.; *Stejneger, Proc. U. S. Nat. Mus.* 1886, p. 124.
Mulleripicus richardsi, *Wall. Isl. Life*, p. 370 (1880).
Thriponax richardsi, *Hargitt, Ibis*, 1885, p. 156.

Adult female (type of species). Brownish black, having a blue-black gloss, with the following exceptions:—the lower back and rump white, a few of the feathers of the lower rump having a small black spot near the tip; the two central feathers of the upper series of upper tail-coverts white, with a large heart-shaped spot of black on their apical portion, but, when the feathers of the rump are not raised, having the appearance of being black feathers margined with white; most of the primaries broadly tipped with white, and their bases to the extent of more than an inch, as well as the bases of the secondaries for at least two inches, also white; the chin and upper throat dark smoky grey; the sides of the upper throat, also the tips of the post-malar feathers and of the ear-coverts, finely streaked with white; the feathers of the upper breast narrowly margined at the tip with buffy white; lower breast, greater part of the abdomen, and the sides of the body buffy white, the thigh-feathers having a large spot of black on their apical portion; tibial plumes whitish at the base; lower abdominal feathers black, margined with buffy white; under wing-coverts (except on the edge of the wing) and axillaries white, with a yellowish tinge; shafts of quills and of tail-feathers brownish black: "iris, feet, and beak black" (*Richards*). Total length 19 inches, culmen 2·5, wing 9·8, tail 7·25, tarsus 1·3; toes (without claws)—outer anterior 1, outer posterior 0·85, inner anterior 0·72, inner posterior 0·55.

Hab. Island of Tzus Sima, between Japan and Corea.

43. CEOPHLŒUS.

Type.
Ceophlœus, *Cab. et Heine, Mus. Hein.* iv. p. 85 (1865).. C. scapularis.

Range. Mexico (north into the province of Nuevo Leon, and on the west to Mazatlan), through Central and the greater part of South America as far as the eastern portion of the Argentine Republic (Misiones).

* There is doubtless some mistake respecting the locality of these specimens.

Key to the Species.

A. With white scapular stripe.
  a'. Above black, or slightly brownish, particularly on the quills and rectrices, the shafts of the quills black or darker than the web; the clear yellowish or buffy white of the inner webs of the quills cutting sharply against the dark portion of the web, on the under side; underparts below the upper breast buffy or rufescent white, distinctly barred with black.
    a''. Larger: length 13·5–14 inches, wing 7·55; bill horny black; with a clear broad white stripe from the nostril uniting with the white stripe down the side of the neck; chin and throat striped with deep black.
      a'''. Forehead as well as the crown and crest, also the malar stripe, crimson. *lineatus* ♂ ad., p. 509.
      b'''. Sinciput slaty black; no red malar stripe ..... *lineatus* ♀ ad., p. 509.
    b''. Smaller: length 11·5–12 inches; wing 6·5; bill ivory-white; with, at most, a narrow ill-defined white stripe from the nostril running backwacks under the ear-coverts and uniting with the white stripe on the side of the neck; chin and throat with dusky (not deep black) striations.
      c'''. Forehead as well as the crown, crest, and malar stripe crimson ..... *scapularis* ♂ ad., p. 511.
      d'''. Forehead and greater part of the crown, except laterally, slaty black; no red malar stripe ..... *scapularis* ♀ ad., p. 511.
  b'. Above, including wings and tail and their coverts, brown, the dull white at the base of the quills blending gradually into the pale dusky brown portion of the web on the underside; the shafts of the quills paler brown than the webs; underparts below the upper breast pale umber-brown, with darker brown transverse spots.
    c''. Forehead as well as crown and crest, also malar stripe, crimson ..... *fuscipennis* ♂ ad., [p. 512.
    d''. Sinciput black; no red malar stripe .. *fuscipennis* ♀ ad., [p. 512.
B. With no white scapular stripe.
  c'. Back, rump, and upper tail-coverts black.
    e''. Forehead as well as the crown and crest, also the malar stripe, crimson .. *erythrops* ♂ ad., p. 513.
    f''. Sinciput black; no red malar stripe .. *erythrops* ♀ ad., p. 513.
  d'. Upper back (only) black, the remainder as well as the rump and upper tail-coverts buff, some of the latter spotted with black.

g''. Forehead as well as the crown and crest, also malar stripe, crimson..... *galeatus* ♂ ad., p. 514.
h''. Forehead rufous buff, the feathers tipped with red; no red malar stripe ..... *galeatus* ♀ ad., p. 514.

1. Ceophlœus lineatus.

Le Pic noir hupé de Cayenne, *Briss. Orn.* iv. p. 31, pl. i. fig. 2, ♂ (1760).

Picus lineatus, *Linn. Syst. Nat.* i. p. 174 (1766); *Bodd. Tabl. Pl. Enl.* p. 45, no. 717 (1783); *Gm. Syst. Nat.* i. p. 425 (1788); *Lath. Ind. Orn.* i. p. 226 (1790); *Molina, Stor. Nat. Chili*, 2nd ed. p. 215 (1810); *Steph. Gen. Zool.* ix. p. 152 (1815); *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 85 (1818); *id. & Bonn. Enc. Méth.* iii. p. 1313 (1823); *Licht. Verz. Doubl.* p. 9, nos. 54, 55 (1823); *Spix, Av. Bras.* i. p. 58, pl. xlviii. figs. 1 ♂, 2 ♀? (♂ juv.) (1824); *Valenc. Dict. Sc. Nat.* xl. p. 178, ♀ (1826); *Wagl. Syst. Av.* Picus, sp. 8 (1827); *Neuwied, Beitr. Naturg. Bras.* iv. p. 389 (1832); *Tschudi, Av. Consp. Rep. Peruan., in Arch. für Naturg.* 1844, p. 302, no. 247; *Cab. in Tschudi's Faun. Peruan., Orn.* p. 43 (1845–46); *Sundev. Consp. Av. Picin.* p. 7 (1866); *Finsch, P. Z. S.* 1870, p. 586.

Carpintero negro, *Azara, Apunt. Hist. Nat. Páxar. Parag.* ii. p. 294, no. 248 (1805).

Dryocopus lineatus, *Boie, Isis*, 1828, p. 326; *Gray, Gen. B.* ii. p. 436 (1845); *Hartl. Ind. Azara*, p. 16, no. 248 (1847); *Cab. in Schomb. Reis. Guian.* iii. p. 716 (1848); *Bp. Consp. Gen. Av.* i. p. 132 (1850); *Burm. Th. Bras.* ii. p. 219 (1856); *Sclat. Cat. Amer. B.* p. 332, no. 1982 (1862); *Léot. Ois. Trinid.* p. 336 (1866); *Sclat. & Salv. P. Z. S.* 1864, p. 366, 1866, p. 196, 1868, p. 629; *Gray, List Picid. Brit. Mus.* p. 60 (1868); *id. Hand-l. B.* ii. p. 188, no. 8637 (1870); *Wyatt, Ibis*, 1871, p. 380; *Pelz. Orn. Bras.* p. 243 (1870); *Layard, Ibis*, 1873, p. 390; *Sclat. et Salv. Nomencl. Av. Neotr.* p. 99 (1873); *iid. P. Z. S.* 1873, p. 291; *Tacz. op. cit.* 1874, p. 546; *Sclat. op. cit.* 1879, p. 532; *Tacz. op. cit.* 1882, p. 42; *id. Orn. Pérou*, iii. p. 75 (1886) (pt.); *Salv. Ibis*, 1886, p. 58.

Dryotomus lineatus, *Swains. Classif. B.* ii. p. 308 (1837); *Bp. Consp. Volucr. Zygod.* p. 7, no. 6 (1854).

Campephilus lineatus, *Reichenb. Scans. Picinæ*, p. 391, no. 901, pl. dcxlvii. figs. 4321–22, ♀ ♂ (1854).

Dryotomus verreauxi, *Bp. Notes Orn. Collect. Delattr.* p. 85, note (1854).

Campephilus lineatus, var. leucopterylus, *Reichenb. Scans. Picinæ*, p. 392, no. 902, pl. dcxlvii. figs. 4319–20 (1854).

Megapicos lineatus, *Casteln. Exped. Amér. Sud, Ois. Des Murs*, p. 17 (1855).

Dryocopus scapularis (*non Vig.*), *Lawr. Ann. Lyc. N. Y.* 1861, p. 333, 1868, p. 130; *Zeled. Cat. Av. Costa Rica*, p. 23 (1882).

Dryopicus lineatus, *Malh. Picidæ*, i. p. 39, pl. xii. figs. 4, 6 ♂, 5 ♀, 7 ♀ juv. (1861).

Megapicus lineatus, *Hartl. J. f. O.* 1862, p. 176.

Ceophlœus lineatus, *Cab. J. f. O.* 1862, p. 176; *id. & Heine, Mus. Hein.* iv. p. 86 (1863).

Ceophlœus scapularis (*non Vig.*), *Cab. J. f. O.* 1862, p. 176.

Ceophlœus mesorhynchus, *Cab. & Heine, Mus. Hein.* iv. p. 86 (1863).

Dryocopus erythrops (*non Valenc.*), *Cav.-Tayl. Ibis*, 1864, p. 93.
Picus lineatus, var. occidentalis, *Sundev. Consp. Av. Picin.* p. 8 (1866).
Dryocopus mesorhynchus, *Gray, List Picid. Brit. Mus.* p. 60 (1868); *id. Hand-l. B.* ii. p. 189, no. 8641 (1870).

Adult male. Above, including wings and tail, as well as their coverts, black, the outer webs of the upper scapulars being white and forming a conspicuous patch, and the margin of the inner webs of the quills at the extreme base also white; shafts of quills and of tail-feathers black; upper nasal plumes black; forehead, crown, crest, and malar stripe crimson; chin and throat white, striped with black; neck and chest black; face dark slaty grey; lower nasal plumes yellowish white; a buffy-white stripe from the nostril crossing the face under the ear-coverts, then becoming broader and running down the side of the neck on to the side of the chest; the lower feathers of the chest margined with buff; under surface of the body buffy white, more or less rufescent, barred with black; the under tail-coverts similar in colour, but the feathers having a broad black intermarginal line and a black shaft-streak, the former giving to the feathers a scaly appearance; under wing-coverts and axillaries uniform yellowish white; bill horny black. Total length 14 inches, culmen 1·65, wing 7·6, tail 5, tarsus 1·1; toes (without claws)—outer anterior 0·88, outer posterior 0·8, inner anterior 0·7, inner posterior 0·45.

Adult female. Has the sinciput and the malar region black, but is otherwise like the adult male. Total length 13·5 inches, culmen 1·4, wing 7·5, tail 5, tarsus 1·1.

Young. Differ from the adult in having the underparts below the upper breast greyish white, with bar-like spots of dusky black; the chin and throat in the very young birds being brownish white, with dusky brown striations, or, in rather older birds, pure white, with stripe-like spots of dusky black, but sometimes uniform. The malar region, in both sexes, slaty black, some of the feathers in the male being tipped with dull crimson. In the male, the forehead, crown, and occiput are crimson-scarlet, and in the female this colour is confined to the hinder part of the crown and the occiput, the forehead and fore part of the crown being dusky black.

Examples of this species from Costa Rica differ slightly from typical birds, being less distinctly barred below, but I do not think it advisable to separate them.

Hab. Guiana, north into Trinidad; throughout the greater part of Brazil, westward to Monterico in Peru, and through the eastern part of Peru and Ecuador into New Granada, and north to Costa Rica.

a. ♂ ad. sk.	Santa Fé, Veragua (*E. Arcé*).	Salvin-Godman Coll.
b. ♂ juv. sk.	Chiriqui, Veragua.	Capt. Kellett and Lieut. Wood [P.].
c, d. ♀ ad. sk.	Panama (*J. McLeannan*).	Salvin-Godman Coll.
e. ♂ ad. sk.	Chepo, Panama (*E. Arcé*).	Salvin-Godman Coll.
f. ♀ ad. sk.	Santa Marta, U. S. Colombia.	Tweeddale Coll.

g. ♂ ad. sk.	Santa Elena, Antioquia (*T. K. Salmon*).	Salvin-Godman Coll.
h. ♂ ad. sk.	Antioquia (*T. K. Salmon*).	Sclater Coll.
i. ♂ ad. sk.	Bogotá.	Salvin-Godman Coll.
k, *l*, *m*. ♂ ad.; *n*. ♀ ad. sk.	Bogotá.	Tweeddale Coll.
o. ♂ ad. sk.	Sarayacu, Ecuador (*C. Buckley*).	Salvin-Godman Coll.
p. ♂ ad. sk.	Monji, Ecuador (*C. Buckley*).	Salvin-Godman Coll.
q. ♀ ad. sk.	Venezuela.	Tweeddale Coll.
r. ♂ ad. sk.	Trinidad.	Zoological Society.
s. ♂ ad. sk.	Camacusa, British Guiana, April (*H. Whitely*).	Salvin-Godman Coll.
t. ♂ imm. sk.	Bartica Grove, Aug. (*H. Whitely*).	Salvin-Godman Coll.
u. ♂ juv. sk.	Côte Ferme, French Guiana.	J. Verreaux.
v. ♂ ad. sk.	Cayenne.	Salvin-Godman Coll.
w. ♀ ad. sk.	Para, Dec. (*E. L. Layard*).	Tweeddale Coll.
x. ♂ ad. sk.	Mexiana, Nov. (*A. R. Wallace*).	Salvin-Godman Coll.
y. ♂ ad. sk.	Mexiana, Dec. (*A. R. Wallace*).	Sclater Coll.
z. ♀ ad. sk.	Maranham (*R. Wendeborn*).	Salvin-Godman Coll.
a'. ♂ ad.; *b'*, *c'*. ♂ ♀ imm. sk.	Bahia (*Dr. Wucherer*).	Salvin-Godman Coll.
d', *e'*. ♂ ♀ ad. sk.	Chapada, Matto Grosso, Jan., May (*H. H. Smith*).	Salvin-Godman Coll.
f'. ♂ ad. sk.	Corumba, Matto Grosso, April (*H. H. Smith*).	Salvin-Godman Coll.
g', *h'*. ♂ ♀ ad.; *i'*. ♂ juv. sk.	Brazil.	Tweeddale Coll.
k'. ♀ ad. sk.	Brazil.	Sclater Coll.
l'. ♀ ad. sk.	Brazil.	Purchased.

2. Ceophlœus scapularis.

Picus scapularis, *Vig. Zool. Journ.* iv. p. 354, ♂ (1829); *Wagl. Isis*, 1829, p. 509, ♂; *Vig. Zool. Beech. Voy.* p. 23 (1839); *Sundev. Consp. Av. Picin.* p. 8 (1866).

Dryocopus scapularis, *Gray, Gen. B.* ii. p. 436 (1845); *Bp. Consp. Gen. Av.* i. p. 133 (1850); *Sclat. P. Z. S.* 1856, p. 306; *Cav.-Taylor, op. cit.* 1858, p. 359; *Moore, op. cit.* 1859, p. 60; *Sclat. t. c.* p. 367; *id. & Salv. Ibis*, 1859, p. 135; *Cav.-Taylor, op. cit.* 1860, p. 119; *Sclat. Cat. Amer. B.* p. 333, no. 1985 (1862); *Gray, List Picid. Brit. Mus.* p. 61 (1868); *Lawr. Ann. Lyc. N. York*, ix. p. 205 (1869); *Gray, Hand-l. B.* ii. p. 118, no. 8638 (1870); *Sclat. & Salv. P. Z. S.* 1870, p. 837; *iid. Nomencl. Av. Neotr.* p. 99 (1873); *Lawr. Bull. U. S. Nat. Mus.* iv. p. 34 (1876).

Picus similis, *Less. Descr. Mamm. Ois. réc. découv.* p. 204 (1847).

Campephilus leucorhamphus, *Reichenb. Scans. Picinæ*, p. 393, no. 906, pl. dcxlviii. figs. 4327–28, ♂ ♀ (1854).

Campephilus scapularis, *Reichenb. Scans. Picinæ*, p. 394, no. 911 (1854).

Picus leucoramphus, *Licht. Nomencl. Av.* p. 75 (1854).

Driopicus scapularis, *Bp. Consp. Volucr. Zygod.* p. 8, no. 24 (1854).

Dryotomus delattrii, *Bp. Notes Orn. Collect. Delattr.* p. 85 (1854); *id. Consp. Volucr. Zygod.* p. 7, no. 7 (1854).

Dryopicus scapularis, *Malh. Picidæ*, i. p. 44, pl. x. figs. 1, 2 ♂ ad., 3 ♀ ad. (1861).

Ceophlœus scapularis, *Cab. & Heine, Mus. Hein.* iv. p. 85 (1863); *Ferrari-Perez, Proc. U. S. Nat. Mus.* 1886, p. 159.
Hylotomus scapularis, *Nutting, Proc. U. S. Nat. Mus.* 1883, p. 387.

Adult male. Resembles *C. lineatus*, but may be distinguished by its very much smaller dimensions and its light or ivory-white bill, and also by the narrow and ill-defined (and sometimes almost obsolete) white stripe which crosses the face from the nostril to the side of the neck; the striations on the chin and throat are less intense black; the general colour above, as well as on the wings and tail, is of a browner shade. Total length 12 inches, culmen 1·4, wing 6·52, tail 4·2, tarsus 0·95; toes (without claws)—outer anterior 0·72, outer posterior 0·7, inner anterior 0·6, inner posterior 0·4.

Adult female. Differs from the adult of the opposite sex in having the forehead, crown, and malar region slaty black. Total length 11·5 inches, culmen 1·3, wing 6·5, tail 4·15, tarsus 1.

In Jalisco this species is small, and has the bill darker; the face is also blacker.

Hab. Mexico, extending on the east as far as the Province of Nuevo Leon, and on the west ranging into Sonora; Central America, south into Costa Rica.

a. ♂ ad.; *b*. Juv. sk.	Mexico.	Purchased.
c. ♀ ad. sk.	Mexico.	Tweeddale Coll.
d. ♂ ad. sk.	Mexico.	Sclater Coll.
e. ♀ ad.; *f*, *g*. ♂ ♀ imm. sk.	Nuevo Leon, Mexico, May, June (*F. B. Armstrong*).	Salvin-Godman Coll.
h. ♀ ad. sk.	Aldama, Tamaulipas, March (*W. B. Richardson*).	Salvin-Godman Coll.
i. [♂] ad. sk.	Sierra Madre above Ciudad Victoria, Tamaulipas, May (*W. B. Richardson*).	Salvin-Godman Coll.
k–*n*. ♂ ad. et imm.; *o*, *p*. ♀ ad. sk.	Tampico, Feb., March, June (*W. B. Richardson*).	Salvin-Godman Coll.
q. ♂ juv. sk.	Valles San Luis Potosi, May (*W. B. Richardson*).	Salvin-Godman Coll.
r. ♂ ad. sk.	R. Juan Martin, Mizantla, Vera Cruz, Nov.	Salvin-Godman Coll.
s. ♀ ad. sk.	Zantla, Huatusco, Vera Cruz, Aug. (*Mis. Geogr. Mex.*).	Salvin-Godman Coll.
t, *u*. ♂ ad.; *v*. ♀ ad. sk.	Atoyac, Vera Cruz, May (*Mrs. H. H. Smith*).	Salvin-Godman Coll.
w. ♀ ad. sk.	Jalapa (*de Oca*).	Sclater Coll.
x. ♂ imm. sk.	Sierra de Alamos, Sonora, 2500 ft., May (*W. Lloyd*).	Salvin-Godman Coll.
y, *z*. ♂ ♀ imm. sk.	Mazatlan, W. Mexico, Dec., Jan. (*A. Forrer*).	Salvin-Godman Coll.
a'–*d'*. ♂ ad.; *e'*, *f'*, *g'*. ♀ ad. sk.	San Blas. Tepic, April, May (*W. B. Richardson*).	Salvin-Godman Coll.
h'. ♂ ad. sk.	Mexico (*W. Lloyd*).	Salvin-Godman Coll.
i' ♀ ad. sk.	Putla, W. Mexico (*Rébouch*).	Salvin-Godman Coll.
k', *l'*. ♀ ad. sk.	Tonala, Chiapas, Dec., Jan. (*F. Sumichrast*).	Salvin-Godman Coll.

m'. ♂ ad. sk.	Buctzotz, Yucatan, April (*G. F. Gaumer*).	Salvin-Godman Coll.
n'. ♀ ad. sk.	Belize, British Honduras (*F. Blancaneaux*).	Salvin-Godman Coll.
o', *p'*. ♂ ♀ ad. sk.	Guatemala.	Gould Coll.
q'. [♂] ad. sk.	VeraPaz, Guatemala (*O. S.*).	Tweeddale Coll.
r'. ♂ ad. sk.	Rio Grande, Guatemala (*O. S.*).	Tweeddale Coll.
s', *t'*. ♂ ♀ ad. sk.	San Gerónimo, Guatemala (*O. S*).	Salvin-Godman Coll.
u'. ♀ ad. sk.	Dueñas, Guatemala (*O. S.*).	Salvin-Godman Coll.
v'. ♂ ad. sk.	Retalhuleu, Guatemala (*O. S.*).	Salvin-Godman Coll.
w'. ♀ ad. sk.	Costa Rica (*J. Carmiol*).	Salvin-Godman Coll.

3. Ceophlœus fuscipennis.

Dryocopus fuscipennis, *Sclat. P. Z. S.* 1860, pp. 286, 297; *id. Cat. Amer. B.* p. 333, no. 1983 (1862); *Gray, List Picid. Brit. Mus.* p. 61 (1868); *id. Hand-l. B.* ii. p. 189, no. 8642 (1870).
Dryopicus fuscipennis, *Malh. Picidæ*, i. pp. 165, 186, pl. lxi. fig. 1, ♂ ad. (1861).
Ceophlœus fuscipennis, *Cab. & Heine, Mus. Hein.* iv. p. 87 (1863).
Picus fuscipennis, *Sundev. Consp. Av. Picin.* p. 8 (1866).
Dryocopus lineatus (*non Linn.*), *Salv. P. Z. S.* 1883, p. 425; *Tacz. & Berl. P. Z. S.* 1885, p. 118.
Dryocopus lineatus (pt.), *Tacz. Orn. Pérou*, iii. pp. 75, 76 (1886).

Adult male. Resembles *C. lineatus*, but differs in having the upper parts, also the wings, tail, and their coverts brown; the shafts of the quills and of the tail-feathers pale brown and lighter than the webs; the white at the base of the quills blending gradually into the pale dusky-brown web on the underside of the wing; under parts pale brown, with darker brown transverse spots; under tail-coverts pale smoky brown, with whiter tips, and having a faint subapical bar and a shaft-stripe of darker brown. Total length 13 inches, culmen 1·6, wing 7·25, tail 4·6, tarsus 1·2; toes (without claws)—outer anterior 1, outer posterior 0·86, inner anterior 0·72, inner posterior 0·48.

Adult female. Differs from the adult male in having the forehead and the malar region black instead of red. Total length 12·5 inches, culmen 1·42, wing 6·6, tail 4·4, tarsus 1·1.

Hab. Western Ecuador and the adjoining coast-region of North Peru.

a. ♀ ad. sk.	[Mexico.]	Purchased.
b, *c*. ♂ ♀ ad. sk.	Babahoyo, Ecuador (*L. Fraser*).	Sclater Coll. (Types of species.)
d. ♀ ad. sk.	Payta, Peru, Jan. (*A. H. Markham*).	Salvin-Godman Coll.

4. Ceophlœus erythrops.

Picus erythrops, *Valenc. Dict. Sc. Nat.* xl. p. 178 (1826); *Less. Traité*, i. p. 225 (1831); *id. Compl. Buff.* ix. p. 323 (1837); *Gerbe,*

Dict. Univ. x. p. 142 (1848); *Des Murs, Icon. Orn.* pl. xxvii., ♀ (1849).

Picus lineatus (*non Linn.*), *Neuwied, Beitr. Naturg. Bras.* iv. p. 389 (1832).

Dryocopus erythrops, *Gray, Gen. B.* ii. p. 436 (1845); *Bp. Consp. Gen. Av.* i. p. 133 (1850); *Sclat. Cat. Amer. B.* p. 333, no. 1984 (1862); *Gray, List Picid. Brit. Mus.* p. 61 (1868); *id. Hand-l. B.* ii. p. 188, no. 8639 (1870); *Finsch, P. Z. S.* 1870, p. 554; *Pelz. Orn. Bras.* p. 243 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 99 (1873); *White, P. Z. S.* 1882, p. 617; *Sclat. & Huds. Arg. Orn.* ii. p. 18 (1889).

Dryopicos erythrops, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 322.

Campephilus erythrops, *Reichenb. Scans. Picinæ*, p. 394, no. 910, pl. dcl. figs. 4335–36, ♂ ♀ ad. (1854).

Picus semitorquatus, *Licht. Nomencl. Av.* p. 75 (1854).

Driopicus erythrops, *Bp. Consp. Volucr. Zygod.* p. 8, no. 23 (1854).

Dryopicus erythrops, *Malh. Picidæ*, i. p. 42, pl. xii. figs. 1, 2, ♂ ♀ ad. (1861).

Ceophlœus erythrops, *Cab. J. f. O.* 1862, p. 176; *id. & Heine, Mus. Hein.* iv. p. 88 (1863).

Picus melanotis, *Sundev. Consp. Av. Picin.* p. 8 (1866).

Adult male. Resembles *C. lineatus*, but may be at once recognized by the entirely black scapulars; the underparts differ slightly, the bars on the feathers of the middle of the breast and abdomen being paler laterally, the black central portion appearing as a spot. Total length 13 inches, culmen 1·62, wing 7·3, tail 4·9, tarsus 1·08; toes (without claws)—outer anterior 0·88, outer posterior 0·75, inner anterior 0·67, inner posterior 0·4.

Adult female. Has the forehead and fore part of the crown black; the malar region anteriorly black, posteriorly slaty grey like the face. Total length 13 inches, culmen 1·65, wing 7·35, tail 5·2, tarsus 1·05.

Hab. Eastern Brazil north to Pernambuco, Southern Brazil and the eastern part of the Argentine Republic (Misiones).

a. ♂ ad. st.	Brazil.	J. Gould, Esq.
b. ♀ ad. sk.	Brazil.	J. Gould, Esq.
c. ♀ ad. sk.	Brazil.	Sclater Coll.
d, e. ♂ ♀ ad. sk.	Brazil.	Tweeddale Coll.
f. ♀ ad. sk.	Pernambuco, Brazil (*Craven*).	Sclater Coll.
g. ♂ ad.; *h.* ♀ imm. sk.	Rio Grande, Brazil.	Tweeddale Coll.
i. ♂ ad. sk.	Sapitiva, Brazil, May (*J. Natterer*).	Sclater Coll.

5. Ceophlœus galeatus.

Picus galeatus, *Temm. Pl. Col.* 171, ♂ (1823); *Steph. Gen. Zool.* xiv. p. 166 (1826); *Wagl. Syst. Av.* Picus, sp. 10 (1827); *Burm. Th. Bras.* ii. p. 222, note (1856); *Sundev. Consp. Av. Picin.* p. 8 (1866).

Dryocopus galeatus, *Gray, Gen. B.* ii. p. 436 (1845); *Bp. Consp. Gen. Av.* i. p. 133 (1850); *Gray, List Picid. Brit. Mus.* p. 62 (1868); *id. Hand-l. B.* ii. p. 189, no. 8640 (1870); *Pelz.*

Orn. Bras. p. 243 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 99 (1873); *Berl. Ibis*, 1884, p. 442; *Pelz. & Lorenz, Ann. k.-k. Naturh. Hofm.* iii. Th. iv. p. 43 (1888).

Dryopicus galeatus, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 322; *id. Picidæ*, i. p. 38, pl. xi. figs. 1 ♂ ad., 2 ♀ ad., 3 ♂ juv. (1861).

Campephilus galeatus, *Reichenb. Scans. Picinæ*, p. 394, no. 912, pl. dcl. fig. 4337, ♂ (1854).

Driopicus galeatus, *Bp. Consp. Volucr. Zygod.* p. 8, no. 22 (1854).

Ceophlœus galeatus, *Cab. & Heine, Mus. Hein.* iv. p. 89 (1863).

Adult female. Extreme upper back black, the lower feathers barred with pale buff; middle and lower back, rump, and upper tail-coverts buff, the upper series of the latter with a few transverse black spots or bars, more or less concealed by the feathers of the rump; scapulars, wings, and tail black, the quills having the basal half of the inner webs rufous-buff; shafts of quills brown, those of the tail-feathers black; forehead rufous or rufous-buff, the feathers tipped with crimson; crown, occipital and nuchal crest, and nearly the whole of the hind neck crimson; lores, face, chin, and throat rufous-buff, slightly greyer on the posterior part of the face, the lores and fore part of the cheeks, also the chin and throat, being uniform, the remainder narrowly barred with black; fore neck and fore part of the side of the neck black, the former spotted with buff, a buff stripe running down the side of the neck; under surface of the body and under tail-coverts buff, narrowly barred with black, the barring broader on the chest and breast; under wing-coverts and axillaries deep buff. Total length 11·5 inches, culmen 1·47, wing 6·7, tail 4·25, tarsus 1; toes (without claws)—outer anterior 0·8, outer posterior 0·72, inner anterior 0·62, inner posterior 0·38.

Adult male. Resembles the adult female, but may be distinguished by its long red malar stripe. Total length 11·5 inches, culmen 1·4, wing 6·5, tail 4·3, tarsus 1·05.

Hab. Southern Brazil, Province of Rio Grande do Sul, north to Ypanema, Province of Saõ Paulo.

a, b. ♀ ad. sk.	Brazil.	Zoological Society.
c. ♀ ad. sk.	Brazil.	E. Wilson, Esq. [P.].

44. DRYOTOMUS.

Type.

Dryotomus, *Swains. Faun. Bor.-Amer.* p. 304 (1831) .... D. pileatus.

Hylatomus, *Baird, Rep. Expl. & Surv. Mississ. Pacif. Rail. Route*, ix. p. 107 (1858) ..... D. pileatus.

Phlœotomus, *Cab. & Heine, Mus. Hein.* iv. p. 102 (1863).. D. pileatus.

Range. Wooded region of North America (generally), north to 63° lat., and reappearing in Tucuman, Argentine Republic *.

* The latter locality is the habitat of Dr. Cabanis's *Phlœotomus schulzi*, which is placed by this author in the same genus as the northern *D. pileatus*.

Key to the Species.

A. Larger: length 15·15 to 19 inches; wing 8·9 to 10; general colour less black; with a greater amount of white on the bases of the quills.
  a'. Chin and throat uniform white.
    a''. Entire top of the head, the crest, and malar stripe crimson ..... *pileatus* ♂ ad., p. 516.
    b''. Hinder part of the crown and the crest (only) red; the forehead and fore part of the crown, also the malar region, slaty black ..... *pileatus* ♀ ad., p. 516.
  b'. Chin and throat with dusky striations .... *pileatus* ♂ juv., p. 516.
B. Conspicuously smaller and of a deeper black; with less white on the bases of the quills .. *schulzi*, p. 517.

1. Dryotomus pileatus.

The larger red-crested Woodpecker, *Catesby, Nat. Hist. Carol.* i. p. 17, pl. 17 (1731).

Le Pic noir hupé de Virginie, *Briss. Orn.* iv. p. 29 (1760).

Picus pileatus, *Linn. Syst. Nat.* i. p. 173 (1766); *Gm. Syst. Nat.* i. p. 425 (1788); *Lath. Ind. Orn.* i. p. 225 (1790); *Vieill. Ois. Amér. Sept.* ii. p. 58, pl. cx. (1807); *Wils. Amer. Orn.* iv. p. 27, pl. xxix. fig. 2, ♂ ad. (1811); *Steph. Gen. Zool.* ix. p. 158, pl. xxxii. (1815); *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 84 (1818); *Lath. Gen. Hist. B.* iii. p. 370 (1822); *Bonn. & Vieill. Enc. Méth.* iii. p. 1313 (1823); *Valenc. Dict. Sc. Nat.* xl. p. 177 (1826); *Bp. Syn. B. U. S.* p. 44, no. 38 (1826); *Wagl. Syst. Av.* Picus, sp. 2 (1827); *Drap. Dict. Class. d'Hist. Nat.* xiii. p. 500 (1828); *Less. Traité*, i. p. 229 (1831); *Jard. ed. Wils. Amer. Orn.* ii. p. 19, pl. xxix. fig. 2 (1832); *Nutt. Man. Orn.* i. p. 567 (1832); *Aud. Orn. Biogr.* ii. p. 74, pl. cxi. figs. 1 ♂, 2 ♀, 3–4 ♂ juv. (1834), v. p. 533 (1839); *id. B. Amer.* 8vo, iv. p. 226, pl. ccl vii. ♂, ♀ ad., ♂ ♂ juv. (1839); *id. Syn. B. N. Amer.* p. 176 (1839); *Peab. Rep. Nat. Hist. Mass., Aves*, 1839, p. 334; *id. Bost. Journ. Nat. Hist.* 1841, p. 170; *De Kay, Nat. Hist. N. York, Aves*, p. 184, pl. xviii. fig. 39, ♂ (1844); *Sundev. Consp. Av. Picin.* p. 8 (1866).

Dryocopus pileatus, *Boie, Isis*, 1828, p. 326; *Gray, Gen. B.* ii. p. 436 (1845); *Bp. Consp. Gen. Av.* i. p. 132 (1850); *Licht. Nomencl. Av.* p. 75 (1854); *Barry, Proc. Bost. Soc. Nat. Hist.* 1854, p. 8; *Bridges, P. Z. S.* 1858, p. 2; *Sclat. Cat. Amer. B.* p. 332, no. 1981 (1862); *Gray, List Picid. Brit. Mus.* p. 59 (1868); *id. Hand-l. B.* ii. p. 188, no. 8635 (1870); *Ridgw. Ann. Lyc. Nat. Hist. N. York*, 1874, p. 377.

Dryotomus pileatus, *Swains. Faun. Bor.-Amer., Birds*, ii. p. xxvi introd. and p. 304 (1831); *id. Classif. B.* ii. p. 308 (1837); *Bp. Comp. List B. Eur. & N. Amer.* p. 39, no. 252 (1838).

Campephilus pileatus, *Reichenb. Scans. Picinæ*, p. 391, no. 900, pl. dcxlvii. figs. 4317–18, ♂ ♀ (1854).

Dryopicus pileatus, *Bp. Notes Orn. Collect. Delattr.* p. 85 (1854); *Malh. Picidæ*, i. p. 34, pl. xi. figs. 5 ♂, 6 ♀, ad. (1861).

Driopicus pileatus, *Bp. Consp. Volucr. Zygod.* p. 8, no. 21 (1854).

Hylatomus pileatus, *Baird, B. N. Amer.* p. 107 (1858); *Verrill, Proc. Essex Inst.* 1862, p. 144; *Blakist. Ibis*, 1862, p. 3; *Cav.-Tayl.*

t. c. p. 128; *Dress. op. cit.* 1865, p. 469; *Brown, op. cit.* 1868, p. 419; *Merriam, Bull. Nutt. Orn. Club*, 1879, p. 6; *Mayn. Bds. E. N. Amer.* p. 234, pl. xix. (1879).

Phlœotomus pileatus, *Cab. & Heine, Mus. Hein.* iv. p. 102 (1863).

Hylotomus pileatus, *Blakist. Ibis*, 1863, p. 52; *McIlwr. Proc. Essex Inst.* 1866, p. 83; *Coues, op. cit.* 1867, p. 262; *Coop. B. Calif. ed. Baird*, p. 396 (1870); *Allen, Am. Nat.* 1870, p. 572; *Coues, B. N.-West*, p. 278 (1874); *B., B., & R. Hist. N. Amer. B.* ii. p. 550, pl. lvi. figs. 4 ♀, 5 ♂ (1874); *Brewst. Ann. Lyc. N. York*, xi. p. 144 (1875); *Merrill, Proc. U. S. Nat. Mus.* 1878, p. 151; *Beld. t. c.* p. 429; *Ridgw. op. cit.* 1879, p. 189; *Merriam, Bull. Nutt. Orn. Club*, 1882, p. 236; *Coues, Check-list N. Amer. B.* 2nd ed. 1882, p. 76; *Sclat. P. Z. S.* 1883, p. 425; *Cooke & Widm. Ridgw. Orn. Club Bull.* i. 1883, p. 37; *Coues, Key N. Amer. B.* 2nd ed. 1884, p. 480; *Agersb. Auk*, 1885, p. 283.

Ceophlœus pileatus, *A. O. U. Check-list N. Amer. B.* 1886, p. 215; *Brewst. Auk*, 1886, p. 104; *Warren, B. Penn.* p. 132 (1888).

Adult male. Entire plumage sooty black, with the following exceptions:—the forehead, crown, elongated occipital and nuchal feathers, and the malar stripe crimson; a narrow white superciliary stripe running backwards to the occiput; the lower nasal plumes and a broad stripe from the nostril crossing the face, and extending down the side of the neck on to the side of the chest, white; chin and throat white; the edge of the wing white, transversely spotted with black; the bases of both webs of the quills white, this being concealed by the greater wing-coverts, and only showing on the outer primaries a little way below the primary-coverts; under wing-coverts and axillaries white; the outer webs of the outer primaries have an apical spot of dirty white; the sides of the body and the flanks are faintly and narrowly barred with greyish white; shafts of quills and of tail-feathers black: "bill blackish, grey above, pale horn-colour beneath; irides golden yellow; legs bluish black" (*Richardson*). Total length 16·5 inches, culmen 2·2, wing 9·15, tail 6·3, tarsus 1·35; toes (without claws)—outer anterior 0·98, outer posterior 0·8, inner anterior 0·7, inner posterior 0·48.

Young male. Has the red on the forehead, crown, and crest of a brick colour, and there is only a slight trace of a white stripe behind the eye; the chin and throat are faintly striped with sooty black, and the breast and abdomen are more sooty black than in the adult; the malar stripe is dusky black, one or two of the feathers having red tips. Older, but still immature, males have the malar stripe entirely red, while still retaining the striated throat.

Adult female. Differs from the adult male in having the malar region entirely black; the margins of the feathers of the forehead and of the greater part of the crown dark brown, the remaining portion of the feathers being black, and giving a mottled appearance to the top of the head, the hind part of crown and occipital crest alone being crimson. Total length 16 inches, culmen 1·9, wing 8·85, tail 6·05, tarsus 1·28.

Examples of this species from Florida have the white at the base

of the primaries showing upon both webs, below the primary-coverts, and forming a patch. This is also well-marked in a specimen from Washington, D.C.

Hab. Formerly the whole wooded region of North America up to 63° N. lat. Now rare or extirpated in the more thickly settled parts of the Eastern States.

a. ♂ ad. st.	North America.	Purchased.
b, c. ♂ ad.; *d, e.* ♀ ad. sk.	North America.	Purchased.
f, g. ♂ ♀ imm.; *h.* ♀ ad. sk.	British Columbia.	J. K. Lord, Esq. [P.].
i. ♂ imm. sk.	Esquimalt, British Columbia (*A. H. Markham*).	Salvin-Godman Coll.
k. ♂ ad. sk.	Maine, Oct. (*Henshaw*).	Henshaw Coll. [S.-G.].
l. ♂ ad. sk.	1st Lake, Herkimer Co., New York, June (*Hart Merriam*).	
m, n. ♂ ad. sk.	Big Otter Lake, N. Y., Dec. (*A. Jennings Dayan*).	
o. ♂ ad.; *p, q.* ♀ ad. sk.	Big Moose Lake, N. Y., April, Nov. (*Hart Merriam*).	
r. ♂ ad. sk.	Watson, N. Y., Dec. (*A. Jennings Dayan*).	
s. ♂ ad. sk.	West Virginia, Jan. (*Henshaw*).	
t. ♂ ad. sk.	Washington, D.C. (*J. R. Pomsell*).	Salvin-Godman Coll.
u. ♀ ad. sk.	Florida (*S. Taylor*).	Sclater Coll.
v. ♂ ad. sk.	Miami, Florida, March.	Salvin-Godman Coll.
w. ♂ ad. sk.	Green Cove Spring, Florida, April (*Hart Merriam*).	Henshaw Coll. [S.-G.].
x, y. ♀ ad. sk.	Southern Missouri, Dec., Jan. (*E. W. Nelson*).	
z. ♂ ad. sk.	Union Co., Illinois (*R. Kennicott*).	
a'–d'. ♂ imm. sk.	California.	Tweeddale Coll.
e'. ♀ imm. sk.	Hollisters, California, Nov. (*Henshaw*).	Salvin-Godman Coll.
f'. ♀ ad. sk.	Nevada, California, Oct. (*E. W. Nelson*).	Henshaw Coll. [S.-G.].
g', h'. ♂ ♀ imm. sk.	San Patricia, Texas, Dec. (*F. B. Armstrong*).	Salvin-Godman Coll.

2. Dryotomus schulzi.

Dryocopus atriventris, juv. (*non Wagl.*), *Burm. Reis. La-Plata*, ii. Anhang, p. 444 (1861).
Phlœotomus schulzi, *Cab. J. f. O.* 1883, p. 102.
Campephilus schulzi, *Selat. & Huds. Arg. Orn.* ii. p. 18 (1889).

According to Dr. Cabanis, this species is a diminutive form of the Northern *D. pileatus*. The general coloration is blacker, and the white markings shown in *D. pileatus* also exist in the present bird, only the extension of the white on the underside of the wings and

on the bend of the wing is perceptibly smaller than in the large northern species.

The occurrence of a second species of *Dryotomus* at so remote a distance from the only known one is remarkable, and it is to be regretted that Dr. Cabanis in his description has not supplied us with more details.

Hab. Tucuman.

45. PICUS.

	Type.
Picus, *Linn. Syst. Nat.* i. p. 173 (1766)	P. martius.
Dryocopus, *Boie, Isis*, 1826, p. 997	P. martius.
Carbonarius, *Kaup, Naturl. Syst.* p. 131 (1829)	P. martius.
Dryopicos, *Malh. Mém. Acad. Metz*, 1848–49, p. 320	P. martius.

Tarsus and foot of *Picus martius*.

Range. Palæarctic Region, between 40° and 60° N. lat. East into Kamtschatka, and into the island of Yezo, Japan.

1. Picus martius.

Picus martius, *Linn. Syst. Nat.* i. p. 173 (1766); *Gm. Syst. Nat.* i. p. 424 (1788); *Lath. Ind. Orn.* i. p. 224 (1790); *Licht. Cat. Rer. Nat. Rariss. Hamb.* p. 16 (1793); *Lewin, B. Gt. Brit.* ii. p. 32, pl. xlv., ♂ (1796); *Steph. Gen. Zool.* ix. p. 148, pl. xxix., ♀ (1815); *Meyer, Vög. Liv- u. Esthl.* p. 58 (1815); *Meisn. & Schinz, Vög. Schweiz*, p. 38 (1815); *Koch, Syst. baier. Zool.* i. p. 71 (1816); *Nilss. Orn. Suec.* i. p. 102 (1817); *Cuv. Règne Anim.* i. p. 422 (1817); *Vieill. N. Dict. d'Hist. Nat.* xxvi. p. 83 (1818); *id. & Bonn. Enc. Méth.* iii. p. 1302 (1823); *Brehm, Naturgesch. Eur.*

Vög. p. 133 (1823); *Naum. Vög. Deutschl.* v. p. 253, pl. cxxxi. figs. 1, 2, ♂ ♀ ad. (1826); *Wagl. Syst. Av.* Picus, sp. 6 (1827); *Temm. Man. d'Orn.* ii. p. 112 (1828); *Less. Traité*, i. p. 219 (1831); *Pall. Zoogr. Rosso-Asiat.* i. p. 407 (1831); *Glog. Handb. Naturgesch. Vög. Eur.* p. 457 (1834); *Gould, B. Eur.* iii. pl. 225, ♂ ♀ ad. (1837); *Macgill. Br. B.* iii. p. 77 (1840); *Benoit, Orn. Sicil.* p. 31 (1840); *Schinz, Eur. Faun.* p. 260 (1840); *Keys. & Blas. Wirb. Eur.* pp. xxxiv introd. and 148 (1840); *Yarr. Hist. Brit. B.* ii. p. 127 (1843); *Von der Mühle, Orn. Griechenl.* p. 30 (1844); *Schleg. Rev. Crit. Ois. Eur.* p. xlix (1844); *Middend. Reis. Sibir., Zool.* p. 132 (1851); *Sundev. Sv. Fogl.* p. 143 (1856); *Hewits. Eggs Brit. B.* i. p. 238, pl. lxi. fig. 1 (1856); *Mag. v. Wright, Finl. Fogl.* p. 268 (1859); *Linderm. Vög. Griechenl.* p. 42 (1860); *Prév. & Lemaire, Hist. Nat. Ois. d'Eur.* p. 166 (1864); *Sundev. Consp. Av. Picin.* p. 9 (1866); *Borggr. Vogelf. Norddeutschl.* p. 67 (1869); *Harting, Handb. Br. B.* 1872, p. 120; *Perini, Man. Orn. Veron.* pt. 1, p. 398 (1874); *Schleg. Vog. Nederl.* p. 38, pl. v. figs. 1, 2, ♂ ♀ (1878); *Finsch, Verhandl. k.-k. zool.-bot. Gesellsch. Wien*, 1879, p. 227; *Stejn. Bull. U. S. Nat. Mus.* no. 29, 1885, p. 354.

Dryocopus martius, *Boie, Isis*, 1826, p. 977; *Bp. Comp. List B. Eur. & N. Amer.* p. 39, no. 265 (1838); *Gray, Gen. B.* ii. p. 436, pl. 108. fig. 5 (1845); *Bp. Consp. Gen. Av.* i. p. 132 (1850); *id. Consp. Volucr. Zygod.* p. 8, no. 20 (1854); *Licht. Nomencl. Av.* p. 75 (1854); *Reichenb. Scans. Picinæ*, p. 388, no. 896, pl. dcxlv. figs. 4309–11, ♂ ♀ ad. & juv. (1854); *Swinh. P. Z. S.* 1863, p. 333; *Cab. & Heine, Mus. Hein.* iv. p. 103 (1863); *Gray, List Picid. Brit. Mus.* p. 59 (1868); *id. Hand-l. B.* ii. p. 188, no. 8634 (1870); *Salvad. Faun. Ital., Ucc.* p. 36 (1871); *Dress. B. Eur.* v. p. 3, pl. cclxxiv., ♂ ♀ (1871); *Hume, Str. F.* 1873, p. 171; *Harv.-Br. Ann. & Mag. Nat. Hist.* 1877, xx. p. 496; *Hume, Str. F.* vii. p. 369 (1878); *Bogd. B. Cauc.* p. 119 (1879); *Blakist. & Pryer, Trans. As. Soc. Jap.* 1880, p. 208, no. 171; *Madarász, Vög. Ungarns*, p. 23 (1881); *Marsch. & Pelz. Orn. Vindob.* 1882, p. 93; *Blakist. & Pryer, Trans. As. Soc. Jap.* 1882, p. 135; *Blakist. Chrysanth.* iii. p. 28 (1883); *A. O. U. List Brit. B.* p. 76 (1883); *Russow, Orn. Esth-Liv- u. Kurl. in Arch. für Naturk.* 1884, p. 115; *Blakist. Amend. List B. Jap.* 1884, p. 28; *Gigl. Avif. Ital.* p. 199 (1886); *Meves, Eur. Vög.* 1886, p. 23; *Stejn. Proc. U. S. Nat. Mus.* 1886, p. 124.

Dendrocopus martius, *Brehm, Isis*, 1828, p. 1274; *id. Vög. Deutschl.* p. 185 (1831); *id. Vollst. Vogelf.* p. 67 (1855).

Carbonarius martius, *Kaup, Natürl. Syst. Eur. Thier.* p. 131 (1829).

Dryotomus martius, *Swains. Faun. Bor.-Amer., Birds*, p. 301 (1831); *Jard. Nat. Lib.* x. p. 349 (1839).

Dendrocopus pinetorum, *Brehm, Vög. Deutschl.* p. 185, pl. xiii. fig. 3, ♂ (1831); *id. Vollst. Vogelf.* p. 67 (1855).

Dryopicos martius, *Malh. N. Classif., Mém. Acad. Metz*, 1848–49, p. 322.

Dendrocopus alpinus, *Brehm, Vollst. Vogelf.* p. 67 (1855).

Dendrocopus niger, *Brehm, Vollst. Vogelf.* p. 67 (1855).

Dryopicus martius, *Jaub. & Barth.-Lapomm. Rich. Orn.* p. 329 (1859); *Malh. Picidæ*, i. p. 32, pl. x. figs. 5–7, ♂ ♀ ad. & juv. (1861); *Degl. & Gerbe, Orn. Eur.* i. p. 148 (1867); *Tacz. Bull. Soc. Zool. France*, 1876, p. 239; *David & Oust. Ois. Chine*, p. 49 (1877).

Picus niger, *Dubois, Ois. Eur.* p. 109, pl. cix., ♂ ♀ (1862).

Driopicus martius, *d'Hamonv. Cat. Ois. France*, 1876, p. 10.

Adult male. Forehead, crown, and middle of occiput crimson, this colour tapering to a point upon the latter part, the bases of the feathers dusky black; the remainder of the plumage black, more intense and glossy on the sides of the head; shafts of primaries dusky brown, those of the secondaries blacker; shafts of tail-feathers black, with grey bases; tarsus clothed in front for about two-thirds of its length with dusky black feathers. Total length 17 inches, culmen 2·45, wing 9, tail 6, tarsus 1·4; toes (without claws)—outer anterior 0·85, outer posterior 0·85, inner anterior 0·67, inner posterior 0·47.

Adult female. Differs from the adult male in having the red on the head confined to the occiput, and forming a triangular patch tapering to a point as it approaches the nape. Total length 17 inches, culmen 2·35, wing 9·4, tail 6·8, tarsus 1·43.

Young male. General colour dusky, the new feathers appearing (on the back particularly) being black, as are likewise the nasal plumes; the feathers in the middle of the upper part of the forehead, crown, and occiput tipped with scarlet more or less brilliant; the bases of the feathers of the forehead being paler and browner than the supercilium, and at the base of the forehead there are a few new crimson-tipped feathers with black bases: "iris yellow; feet dusky" (*Dr. H. M. James*).

Hab. Palæarctic Region between about 38° and 60° N. lat., ranging east into Kamtschatka, and into the island of Yezo, Japan *.

a, b. ♂ ♀ ad. st.	Europe.	Purchased.
c. ♂ ad. sk.	Europe.	Purchased.
d. ♂ ad. st.	Northern Europe.	Purchased.
e, f. ♂ ♀ ad. sk.	South Norway.	Salvin-Godman Coll.
g. ♂ ad. sk.	Sweden, Dec. (*H. Wheelwright*).	Tweeddale Coll.
h, i. ♂ ♀ ad. sk.	Wermland, Feb., April.	Mr. Meves [C.].
k. ♂ ad. sk.	Wermland (*Meves*).	Tweeddale Coll.
l, m. ♂ ♀ ad. sk..	Switzerland.	Salvin-Godman Coll.
n. ♀ ad. sk.	Turkey, Jan. (*T. Robson*).	Shelley Coll.
o. ♂ ad. sk.	Ismiett, Asia Minor, March (*T. Robson*).	Tweeddale Coll.
p. ♂ juv. sk.	South Manchuria, July.	Dr. James [P.].
q. ♀ ad. sk.	South Yezo, Japan (*T. W. Blakiston*).	Tweeddale Coll.
r. ♂ ad. sk.	Hakodadi, April (*T. W. Blakiston*).	Tweeddale Coll.
s. Skeleton.		Old Coll.
t. Sternum.	Lapland.	Purchased.

* Mr. Hume (Str. F. 1873, p. 91) mentions the occurrence, in the hills dividing Sind from Khelat, of a huge black Woodpecker, with a crimson head, and thinks it will most probably prove to be *P. martius*. If so, it will considerably extend the known range of this species.

Subfamily II. PICUMNINÆ.

46. PICUMNUS.

	Type.
Picumnus, *Temm. Pl. Col.* livr. 62 (1825)	P. minutus.
Asthenurus, *Swains. Zool. Journ.* iii. p. 353 (1828).	P. minutus.
Piculus, *Geoffr. St.-Hil. Nouv. Ann. du Mus.* 1832, p. 396	P. minutus.
Vivia, *Hodgs. J. A. S. B.* 1837, p. 107	P. innominatus.
Microcolaptes, *Bp. Consp. Volucr. Zygod.* p. 11 (1854).....	P. orbignyanus.
Pipiscus, *Cab. & Heine, Mus. Hein.* iv. p. 9 (1863).	P. innominatus.
Craugiscus, *Cab. & Heine, Mus. Hein.* iv. p. 10 (1863).....	P. cinnamomeus.

Head and tail of a *Picumnus* (*minutus*).

Range. South and Central America, from the northern part of the Argentine Republic to Honduras; India and China, and through Burmah and the Malayan Peninsula into Sumatra.

Key to the Species.

A. Underparts entirely uniform in adult; sometimes with faint bars on the chest in young.
  a'. Under surface of the body deep rufous.
    a''. Above olive.
      a'''. Feathers of the forehead and crown tipped with red ..... *rufiventris* ♂ ad., p. 527.
      b'''. With no red on the head ..... *rufiventris* ♀ ad., p. 527.
    b''. Above rufous.
      c'''. Crown broadly striped with golden yellow ..... *cinnamomeus* ♂ ad., [p. 528.
      d'''. With no yellow on the crown .... *cinnamomeus* ♀ ad., [p. 528.
  b'. Under surface of the body white, or slightly yellowish, or ochreous.
    c''. With no rufous on the sides of the head and neck; underparts white or yellowish.
      e'''. Above olive; secondaries externally yellow; sides of the chest olivaceous; ear-coverts, sides of the neck, and hind neck yellowish white barred with olive.
        a[1]. Crown-feathers tipped with red; occiput almost uniform black.... *castelnaui* ♂ ad., p. 528.

b^4. Crown and occiput uniform black. *castelnaui* ♀ ad., p. 529.
c^4. Crown and occiput dusky, the latter with a few almost obsolete greyish-white spots; the chest with pale dusky bars ..... *castelnaui* juv. *, [p. 529.
f'''. Above brown; secondaries buffy brown externally; sides of the chest not olivaceous; ear-coverts pale brown, and, together with the sides of the neck, barred with dusky brown.
d^4. Crown-feathers tipped with red .. *leucogaster* ♂ ad., p. 529.
e^4. With no red on the crown, the top of the head and the occiput being black spotted with white ..... *leucogaster* ♀ ad., p. 530.
f^4. Top of the head dusky with whitish spots; the chest with irregular brown bars ..... *leucogaster* juv., p. 530.
d''. Sides of the head and neck pale rufous; underparts ochreous white; crown dusky, uniform in front, the posterior feathers having the middle rufescent. *fuscus* ♀ juv., p. 530.

B. Underparts not uniform either in adult or young.
c'. Upper parts dusky grey, brown, or rufescent brown (not olive).
e''. Entire underparts barred.
g'''. Sides of the face and neck rufous.
g^4. Feathers of the forehead and crown tipped with red ..... *temminckí* ♂ ad., p. 530.
h^4. With no red on the top of the head, this being, like the occiput, black spotted with white ..... *temminckí* ♀ ad., p. 531.
h'''. With no rufous on the face and neck.
i^4. Feathers of the forehead and crown tipped with red ..... *cirrhatus* ♂ ad., p. 531.
j^4. Top of the head entirely black, spotted with white ..... *cirrhatus* ♀ ad., p. 532.
f''. The barring on the underparts confined to the throat and chest.
i'''. Underparts below the chest spotted, sometimes transversely, but not distinctly barred.
k^4. Back with transverse whitish and dusky spots, sometimes almost obsolete.
a^5. Feathers of the forehead and crown tipped with red ..... *spilogaster* ♂ ad., [p. 533.
b^5. Entire top of the head black, spotted with white ..... *spilogaster* ♀ ad., [p. 532.
l^4. Back with rounded spots of white. [p. 533.
c^5. Feathers of the forehead and crown tipped with red ..... *orbignyanus* ♂ ad.,

* The type, which is an immature male, has the top of the head dusky, with a few flame-tipped feathers, the hinder part of the crown and occiput being distinctly spotted with white.

d^5. Top of the head entirely black, spotted with white ..... *orbignyanus* ♀ ad., [p. 533.

j'''. Underparts below the chest striped.

m^4. Sincipital feathers tipped with sulphur-yellow; hinder crown and occiput black, with white spots.. *sclateri* ♂ ad., p. 534.

n^4. With no yellow on the white-spotted feathers on the top of the head ..... *sclateri* ♀ ad., p. 534.

o^4. Top of the head and occiput dusky black, striped with white ..... *sclateri* juv., p. 534.

g''. Chest with sagittate markings, the remaining underparts with stripe-like spots of black; back and wing-coverts spotted with white.

k'''. Feathers on the top of the head tipped with red ..... *sagittatus* ♂ ad., p. 535.

l'''. Entire top of the head black, spotted with white..... *sagittatus* ♀ ad., p. 534.

h''. Chest and breast black, with longitudinal spots of white; below the breast barred.

m'''. Feathers of the forehead and fore part of crown tipped with red .... *steindachneri* ♂ ad., [p. 535.

n'''. Top of the head black, spotted with white..... *steindachneri* ♀ ad., [p. 535.

i''. Entire underparts spotted.

o'''. Upper parts not spotted with white.

p^4. Sides of face and neck white, the feathers having dusky margins; auricular stripe brownish; the black spots on the white underparts somewhat sagittate or heart-shaped; crown-feathers tipped with red ..... *jelskii* ♂ ad., p. 535.

q^4. Sides of the face and neck black, spotted with white; with no auricular stripe; the black spots on the fulvescent underparts slightly longitudinal; top of the head dusky, spotted with white. *nebulosus* ♀, p. 536.

p'''. Upper parts with rounded spots of white.

r^4. Underparts brown with rounded spots of white.

e^5. Sincipital feathers tipped with red ..... *pygmæus* ♂ ad., p. 537.

f^5. Top of the head black, spotted with white ..... *pygmæus* ♀ ad., p. 537.

s^4. Underparts black, with rounded spots of white.

g^5. Sincipital feathers tipped with red..... *asterias* ♂ ad., p. 538.

h^5. Top of the head black spotted with white ..... *asterias* ♀ ad., p. 538.

j''. Entire underparts with squamate markings of black.

q'''. Above spotted with white.

t^4. Face and neck black, spotted with white; feathers of the underparts with a central black stripe; crown-feathers tipped with red..... *guttifer* ♂ ad., p. 538.

u^4. Face and neck white, the feathers with blackish margins.

i^5. Feathers of the chest and breast long and pointed, white, and broadly margined with black; remaining underparts ochreous buff, with narrow squamate markings or stripes of black; spots upon the back entirely white.

a^6. Feathers of the forehead and crown tipped with red .... *albosquamatus* ♂ ad., [p. 539.

b^6. Top of the head entirely black, spotted with white ..... *albosquamatus* ♀ ad., [p. 539.

j^5. The feathers of the entire underparts from the chin to the under tail-coverts short and rounded and narrowly edged with blackish; spots on the back partly black, partly white.

c^6. Feathers of the forehead and crown tipped with red .... *lepidotus* ♂ ad., p. 540.

d^6. Top of the head entirely black spotted with white ..... *lepidotus* ♀ ad., p. 540.

r'''. Above fulvescent brown with squamate black markings, not spotted with white.

v^4. Feathers of the forehead and crown tipped with orange-red ..... *squamulatus* ♂ ad., [p. 540.

w^4. Top of the head entirely black, spotted with white ..... *squamulatus* ♀ ad., [p. 541.

x^4. Top of the head dusky, the feathers having brownish-grey tips ..... *squamulatus* juv., [p. 541.

k''. Entire underparts below the fore neck broadly striped with black, the ground-colour being buff or rufescent white; the anterior feathers on the top of the head red, the posterior feathers black, elongated, and spotted with white .. *iheringi* ♂ ad., p. 541.

d'. Upper parts olive.

l''. Entire underparts barred.

s'''. Ground-colour of the top of the head black in the adult, dusky in the young.

y^4. With red on the top of the head in male.

k^5. Back bright in colour and spotted with black, the tips of the feathers yellow; wing-coverts with an apical spot of yellowish white, and adjoining it a spot of black; underparts very yellow.

e^6. Sincipital feathers tipped with orange-red ..... *minutus* ♂ ad., p. 542.

f^6. Top of the head entirely spotted with pure white .... *minutus* ♀ ad., p. 542.

g^6. Crown and occiput dusky, the crown spotted, the occiput striped with dull white .... *minutus* juv., p. 543.

l^5. Back duller, and with dusky bar-like or wavy spots; the spots on the wing-coverts less distinct; underparts yellowish white.

h^6. Feathers of the forehead and greater part of the crown tipped with red ..... *undulatus* ♂ ad., p. 543.

i^6. Top of the head spotted with pure white ..... *undulatus* ♀ ad., p. 543.

j^6. Top of the head dusky, the crown spotted, the occiput striped with dull white .... *undulatus* juv., p. 543.

m^5. Back with yellowish-white spots, and adjoining these a blackish spot; wing-coverts with a triangular white spot at the tip, and no adjoining black spot; underparts very yellow.

k^6. Feathers of the forehead and greater part of the crown tipped with red ..... *buffoni* ♂ ad., p. 544.

l^6. Top of the head entirely spotted with pure white .... *buffoni* ♀ ad., p. 544.

m^6. Top of the head dusky, the crown spotted with greyish, the occiput striped with dull white..... *buffoni* juv., p. 544.

z^4. With yellow on the top of the head in male.

n^5. Sincipital feathers tipped with yellow ..... *punctifrons* ♂ ad., [p. 544.

o^5. Top of the head entirely spotted with white ..... *punctifrons* ♀ ad., [p. 545.

t'''. Ground-colour of the top of the head umber-brown in the adult, brownish dusky in the young.

aa^4. Sinciput minutely speckled with red..... *lafresnayi* ♂ ad., p. 545.

bb^4. Top of the head entirely spotted with white ..... *lafresnayi* ♀ ad., p. 546.

cc^4. Hinder part of the crown and the occiput striped with white..... *lafresnayi* juv., p. 546.

m''. The barring on the underparts confined to the chest.

u'''. Below the chest striped.

dd^4. With yellow on the top of the head in the male, both adult and young.

p^5. The posterior feathers of the

crown and the occiput spotted with white.

n^5. Sincipital feathers tipped with yellow ..... *aurifrons* ♂ ad., p. 546.

o^6. With no yellow on the top of the head, the sinciput spotted with white ..... *aurifrons* ♀, p. 546.

q^5. The posterior feathers of the crown and the occiput striped with white ..... *aurifrons* ♂ imm., [p. 546.

ee^4. With red on the top of the head in the male.

r^5. Sincipital feathers speckled with red..... *borbæ* ♂ ad., p. 547.

s^5. Entire top of the head blackish brown spotted with white .... *borbæ* ♀ ad., p. 547.

v'''. Below the chest spotted.

ff^4. Ground-colour of the top of the head and of the occiput black in the adult, dusky in the young.

t^5. Sincipital feathers tipped with yellow, the posterior feathers spotted with white ..... *flavifrons* ♂ ad., p. 547.

w^5. Crown and occiput striped with white ..... *flavifrons* juv., p. 547.

gg^4. Ground-colour of the top of the head and of the occiput umber-brown, the sincipital feathers tipped with yellow, the remainder spotted with white ..... *wallacii* ♂ ad., p. 547.

n''. Chest uniform olivaceous in the adult; below the chest striped.

w'''. With red on the top of the head in male.

hh^4. Feathers of the forehead and crown tipped with orange-scarlet ..... *olivaceus* ♂ ad., p. 548.

ii^4. Entire top of the head black, spotted with white ..... *olivaceus* ♀ ad., p. 548.

x'''. With yellow on the top of the head in male.

jj^4. The feathers of the crown tipped with golden yellow..... *granadensis* ♂ ad., [p. 549.

kk^4. Entire top of the head spotted with white ..... *granadensis* ♀ ad., [p. 549.

o''. Chest and below with large rounded or heart-shaped spots of black, the thighs barred; with broad auricular and malar stripes.

y'''. Top of the head olive in adult, dusky in young; auricular and malar stripes tinged with olive.

ll^4. Sincipital feathers black, margined with reddish orange ..... *innominatus* ♂ ad., [p. 550.

mm^4. Top of the head entirely olive . *innominatus* ♀ ad., [p. 550.

z'''. Top of the head rufous; auricular and malar stripes tinged with this colour.

nn[1].	Sincipital feathers black, with dull orange-red tips	*chinensis* ♂ ad., p. 551.
oo[1].	Sincipital feathers entirely rufous, like those of the remainder of the crown and occiput	*chinensis* ♀ ad., p. 552.

1. Picumnus rufiventris.

Asthenurus rufiventris, *Bp. P. Z. S.* 1837, p. 120; *id. Consp. Volucr. Zygod.* p. 11, no. 252 (1854).

Picumnus rufiventris, *Lafr. Rev. Zool.* 1845, p. 366; *Gray, Gen. B.* ii. p. 432 (1845); *Bp. Consp. Gen. Av.* i. p. 141 (1850); *Malh. Picidæ*, ii. p. 283, pl. cxviii. fig. 2, ♀ (1862); *Sclat. & Salv. P. Z. S.* 1866, p. 196; *Gray, List Picid. Brit. Mus.* p. 27 (1868); *id. Hand-l. B.* ii. p. 180, no. 8526 (1870); *Pelz. Orn. Bras.* p. 442 (1870); *Sclat. & Salv. P. Z. S.* 1873, p. 291; *Tacz. Orn. Pérou*, iii. p. 63 (1886).

Picumnus rufiventer, *Reichenb. Scans. Picinæ*, p. 345, no. 791 (1854); *Sundev. Consp. Av. Picin.* p. 96 (1866).

Craugiscus rufiventer, *Cab. & Heine, Mus. Hein.* iv. p. 11 (1863).

Adult male. Back, rump, scapulars, and wing-coverts olive, slightly rufescent; upper tail-coverts rufous; quills dusky brown, the primaries externally margined with olive, the secondaries externally margined with olivaceous rufous; inner webs of the quills margined with buff, shafts dark brown; tail typical, the white webs tinged with rufous; nasal plumes rufescent, tipped with black; top of the head and occiput black, the feathers of the forehead and crown tipped with scarlet, the occipital feathers spotted with rufous buff; hind neck rufescent olive; lores rufescent, spotted with white; sides of the face and neck, and entire underparts from the chin to the under tail-coverts, both inclusive, uniform rich rufous; under wing-coverts and axillaries pale rufous, with a dusky spot near the base of the primaries. Total length 4 inches, culmen 0·6, wing 2·3, tail 1·07, tarsus 0·6; toes (without claws)—outer anterior 0·5, outer posterior 0·54, inner anterior 0·32, inner posterior 0·25.

Adult female. Differs from the adult male in wanting the red on the head, the forehead, crown, and occiput being entirely spotted with white. Total length 4·2 inches, culmen 0·7, wing 2·3, tail 1·2, tarsus 0·65.

Hab. Eastern Ecuador, North-east Peru, and the adjoining part of Brazil.

a. ♀ ad. sk.	Rio Napo.	Salvin-Godman Coll.
b, *c*. ♂ ♀ ad. sk.	Sarayacu, Ecuador (*C. Buckley*).	Salvin-Godman Coll.
d. ♀ ad. sk.	Sarayacu, Ecuador (*C. Buckley*).	Sclater Coll.
e. ♀ ad. sk.	Sarayacu, E. Peru, Aug. (*E. Bartlett*).	Sclater Coll.

2. Picumnus cinnamomeus.

Picumnus cinnamomeus, *Wagl. Isis*, 1829, p. 646; *Lafr. Rev. Zool.* 1845, pp. 7, 8, 111; *Gray, Gen. B.* ii. p. 432 (1845); *Bp. Consp. Gen. Av.* i. p. 141 (1850); *Reichenb. Scans. Picinæ*, p. 345, no. 787,

pl. dclxxviii. figs. 4483-84 (1854); *Malh. Picidæ*, ii. p. 277, pl. cxix. figs. 4 ♂, 5 ♀ (1862); *Sundev. Consp. Av. Picin.* p. 96 (1866); *Gray, List Picid. Brit. Mus.* p. 27 (1868); *id. Hand-l. B.* ii. p. 180, no. 8525 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 98 (1873).

Asthenurus cinnamomeus, *Bp. Consp. Volucr. Zygod.* p. 11, no. 253 (1854).

Craugiscus cinnamomeus, *Cab. & Heine, Mus. Hein.* iv. p. 10 (1863).

Adult male. Entire plumage rich rufous, with the following exceptions:—nasal plumes and frontal band buffy white, the feathers having dusky tips; the top of the head intense black, broadly striped with golden yellow, except on the extreme hinder part of the crown, which has a band formed of large white spots; wing-coverts and quills brownish dusky, the coverts edged with rufous; the inner webs of the primaries margined with greyish or brownish white, the inner webs of the secondaries edged with buff and the outer webs with rufous; shafts brown; tail typical, the white webs with a buff or rufous tinge; under wing-coverts pale rufous. Total length 3·8 inches, culmen 0·58, wing 2·22, tail 1·15, tarsus 0·58; toes (without claws)—outer anterior 0·42, outer posterior 0·42, inner anterior 0·26, inner posterior 0·23.

Adult female. Resembles the adult male generally, but differs in the absence of the yellow tips to the feathers of the crown, this region being black and the hinder half spotted with pure white, the spots being large and forming almost a complete band between the crown and the occiput. Total length 3·7 inches, culmen 0·55, wing 2·25, tail 1·15, tarsus 0·55.

Hab. The extreme northern States of Colombia, in the neighbourhood of Carthagena, Valle Dupar, and Santa Marta.

a, b. ♂ ♀ ad. sk.	Santa Marta, U.S. Colombia.	M. Verreaux.
c. ♀ imm. sk.	Valle Dupar, U.S. Colombia, Sept. 24 (*F. Simons*).	Salvin-Godman Coll.

3. Picumnus castelnaui.

Picumnus castelnaui, *Malh. Picidæ*, ii. p. 281 (not plate) (1862); *Cab. & Heine, Mus. Hein.* iv. p. 12 (1863); *Sundev. Consp. Av. Picin.* p. 104 (1866); *Gray, List Picid. Brit. Mus.* p. 27 (1868); *id. Hand-l. B.* ii. p. 180, no. 8523 (1870).

Picumnus castelnaudi, *Sclat. & Salv. P. Z. S.* 1866, p. 196, 1873, p. 290; *Tacz. Orn. Pérou*, iii. p. 64 (1886).

Adult male. Back, rump, and upper tail-coverts pale dusky olive, with almost obsolete and narrow dusky and yellowish-olive bars; wing-coverts dusky brown with olive margins; quills blackish brown, the primaries at their base and the secondaries along their whole length margined with olive-yellow, the inner webs more or less margined with white; shafts brownish black; upper tail-coverts yellowish white, crossed by dusky bars; tail typical; nasal plumes black with yellowish bases; forehead, supercilium, crown, and occiput black, the crown-feathers tipped with scarlet, the super-

cilium and sides of the occiput and nape spotted with white; lores uniform buff; sides of the face (except the malar region) and neck, also the hind neck, olivaceous white barred with dusky black; malar region and entire underparts from the chin to the vent uniform pale yellow; the under tail-coverts also pale yellow, but crossed by dusky bars; under wing-coverts yellowish white, with a dusky spot near the base of the primaries. Total length 3·2 inches, culmen 0·5, wing 2, tail 0·95, tarsus 0·52; toes (without claws)—outer anterior 0·35, outer posterior 0·35, inner anterior 0·25, inner posterior 0·16.

Adult female. Has the top of the head uniform deep black, but is in other respects like the adult male. Total length 3·2 inches, culmen 0·48, wing 2, tail 1, tarsus 0·5.

Young. In this plumage the barring upon the back is more distinct; the chest is crossed by very faint dusky bars, and the remaining underparts have almost obsolete dusky stripes and spots; the top of the head is dusky brown, not deep black.

Hab. North-east Peru (Sarayacu and Yquitos, on the Ucayali River), and extending north to the Rio Napo in Ecuador.

a. ♀ ad. sk.	Nauta, Peru (*E. Bartlett*).	Sclater Coll.
b. ♂ ad. sk.	Yquitos, Upper Amazon, Oct. (*H. Whitely*).	Salvin-Godman Coll.
c. ♂ ad. sk.	Upper Ucayali River, Peru (*E. Bartlett*).	Sclater Coll.
d. Juv. sk.	Rio Napo.	Salvin-Godman Coll.

4. Picumnus leucogaster.

Picumnus castelnean, *Malh. Picidæ*, ii. pl. cxvii. figs. 1 ♂, 2 (♀?), not text (1862).

Picumnus leucogaster, *Pelz. Orn. Bras.* pp. 241, 335, 442 (1870); *Gray, Hand-l. B.* ii. p. 180, no. 8524 (1870); *Pelz. & Lorenz. Ann. k.-k. Naturhist. Hofm. Wien*, p. 42 (1888).

Adult male. Back, rump, and scapulars pale brown, transversely varied with darker brown and whitish; wing-coverts umber-brown with paler brown margins; quills brown, the secondaries externally margined with fulvescent white, the inner webs of the quills more or less margined with white; shafts brown; upper tail-coverts white barred with dusky brown; tail typical; nasal plumes and lores buffy white; forehead, crown, occiput, and nape black, the coronal feathers tipped with scarlet, the remainder spotted with pure white; hind neck like the back; face and neck white barred with dusky brown, the ear-coverts brown with smoky-white bars; from the chin to the under tail-coverts, both inclusive, white, and entirely uniform except a few brown spots or stripes on the thighs; under wing-coverts creamy white, with a brown spot near the base of the primaries. Total length 3·5 inches, culmen 0·52, wing 2·15, tail 1·2, tarsus 0·53; toes (without claws)—outer anterior 0·4, outer posterior 0·4, inner anterior 0·3, inner posterior 0·22.

Adult female. "Similar to the male, but rather smaller, and with the top of the head entirely spotted with white." (*Pelzeln.*)

Young female. "Has the chest crossed by irregular brown bars." (*Pelzeln.*)

Hab. North Brazil (Rio Branco and Rio Cauamé).

a. ♂ ad. sk.	Rio Branco, Brazil, May 30 (*J. Natterer*).	Sclater Coll.

5. Picumnus fuscus.

Picumnus fuscus, *Pelz. Orn. Bras.* pp. 242, 335, 442 (1870); *Gray, Hand-l. B.* ii. p. 180, no. 8527 (1870); *Pelz. & Lorenz. Ann. k.-k. Naturhist. Hofm. Wien*, p. 42 (1888).

Young female. "Above rufous dusky, the nape more inclining to rufous; the crown dusky, uniform in front, the posterior feathers rufescent in the middle; lores, orbital region, sides of the head, and neck pale rufous; under surface of the body ochreous white; the wing-coverts and secondaries margined with olivaceous; bill obscure horn-colour; feet pale. Length 4·3 inches, wing 2·15, tail 1·35, culmen 0·55, bill from gape 0·65, tarsus 0·6." (*Pelzeln.*)

The tail is typical, and a description of it need not be given.

Hab. Rio Guaporé, west of Matto Grosso, Brazil.

6. Picumnus temminckii.

Carpintero enano, *Azara, Apunt. Hist. Nat. Páxar. Parag.* ii. p. 327 (1805).

Picus minutus (*non Linn.*), *Licht. Verz. Doubl.* p. 11 (1823).

Picumnus exilis (*non Licht.*), *Temm. Pl. Col.* livr. 62e, no. 371, fig. 2 (1825); *Less. Man. d'Orn.* ii. p. 115 (1828); *Wagl. Isis*, 1829, p. 646.

Yunx exilis, *Less. Traité*, i. p. 232 (1831).

Piculus exilis, *Geoffr. St.-Hilaire, N. Ann. du Mus.* 1832, p. 397.

Asthenurus exilis, *Swains. Classif. B.* ii. p. 311 (1837).

Picumnus temminckii, *Lafr. Rev. Zool.* 1845, pp. 6, 111; *Gray, Gen. B.* ii. p. 432 (1845); *Hartl. Ind. Azara*, p. 16 (1847); *Bp. Consp. Gen. Av.* i. p. 140 (1850); *id. Consp. Volucr. Zygod.* p. 11, no. 243 (1854); *Reichenb. Scans. Picinæ*, p. 343, no. 780, pl. dcxvi. fig. 4110, ♀, pl. dclxxviii. figs. 4480–82, ♂ ♀ ♀ (1854); *Burm. Th. Bras.* ii. p. 246 (1856); *Cab. & Heine, Mus. Hein.* iv. p. 21 (1863); *Pelz. Orn. Bras.* pp. 240, 442 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 98 (1873); *Berl. & Iher. in Madar. Zeitsch. gesamm. Orn.* ii. p. 156, pl. ix. fig. 2, ♂ (1885).

Picumnus buffoni (*non Lafr.*), *Malh. Picidæ*, ii. p. 295, pl. cxvi. figs. 3, 4 (1862).

Picumnus ruficollis, *Sundev. Consp. Av. Picin.* p. 97 (1866); *Gray, List Picid. Brit. Mus.* p. 24 (1868); *id. Hand-l. B.* ii. p. 179, no. 8507 (1870).

Adult male. Differs from *P. cirrhatus* in having the sides of the face and neck rufous, the feathers of the malar region whiter than the remainder of the face and tipped with dusky; the upper parts are much more rufescent, and the wing-coverts have more rufescent

margins or apical spots; the underparts tinged with rufous posteriorly; under wing-coverts buff. Total length 3·7 inches, culmen 0·5, wing 2·15, tail 1·3, tarsus 0·5; toes (without claws)—outer anterior 0·43, outer posterior 0·43, inner anterior 0·3, inner posterior 0·22.

Adult female. Has no red on the head, the forehead and crown being like the occiput and nape black spotted with pure white. Total length 3·5 inches, culmen 0·42, wing 2·1, tail 1·3, tarsus 0·5.

Immature female. Has the ochreous-brown transverse markings on the back more distinct; the posterior half of the face and the side of the neck paler, and of a buff colour instead of rufous, with a few transverse dusky brown markings. In this plumage the top of the head is deep black spotted with pure white.

Hab. South Brazil (from Pelotas in the Province of Rio Grande do Sul, north to Ypanema) and Paraguay.

a. ♂ ad. sk.	Rio Grande do Sul, Brazil.	Tweeddale Coll.
b, *c*. ♂ ad.; *d*. ♀ imm. sk.	Rio Grande do Sul, Brazil (*Joyner*).	Salvin-Godman Coll.
e. ♀ ad. sk.	Ypanema, Brazil, May (*J. Natterer*).	Sclater Coll.

7. Picumnus cirrhatus.

Yunx minuta, *Vieill. N. Dict. d'Hist. Nat.* xxxiv. p. 230 (1819); *id. & Bonn. Enc. Méth.* iii. p. 1300 (1823).

Picumnus cirrhatus, *Temm. Pl. Col.* livr. 62ᵉ, no. 371, fig. 1 (1825); *Less. Man. d'Orn.* ii. p. 116 (1828); *Cab. & Heine, Mus. Hein.* iv. p. 19 (1863); *Sundev. Consp. Av. Picin.* p. 98 (1866); *Gray, List Picid. Brit. Mus.* p. 24 (1868); *id. Hand-l. B.* ii. p. 179, no. 8502 (1870); *Pelz. Orn. Bras.* pp. 241, 442 (1870); *Salv. Cat. Strickl. Coll.* p. 381, no. 1862 (1882).

Picumnus minutus (*non Linn.*), *Wagl. Isis*, 1829, p. 645; *Burm. Th. Bras.* ii. p. 245 (1856).

Yunx cirrhatus, *Less. Traité*, i. p. 232 (1831).

Yunx minutissima (pt.), *Less. Traité*, i. p. 232 (1831).

Piculus cirrhatus, *Geoffr. St.-Hil. N. Ann. du Mus.* 1832, p. 397.

Picumnus minutissimus, *Neuwied, Beitr. Naturg. Bras.* iv. p. 378 (1832).

Asthenurus cirrhatus, *Swains. Classif. B.* ii. p. 311 (1837).

Picumnus cayennensis, *Lafr. Rev. Zool.* 1845, pp. 6, 8, 111 (pt.); *Reichenb. Scans. Picinæ*, p. 343, no. 779, pl. dcxvi. fig. 4109, ♂ (1854); *Malh. Picidæ*, ii. p. 280, pl. cxx. figs. 1, 3 (1862).

Picumnus exilis (*non Licht.*), *Bp. Consp. Gen. Av.* i. p. 140 (1850); *Reichenb. Scans. Picinæ*, pl. dcxvi. figs. 4107–8 (not text) (1854).

Picumnus azaræ, *Cab. & Heine, Mus. Hein.* iv. p. 20 (1863); *Sundev. Consp. Av. Picin.* p. 98 (1866); *Gray, List Picid. Brit. Mus.* p. 24 (1868); *id. Hand-l. B.* ii. p. 179, no. 8503 (1870); *Pelz. Orn. Bras.* p. 442 (1870).

Adult male. Back, scapulars, and rump brown, indistinctly crossed by dusky and ochreous-brown bars; wing-coverts brown, tipped or spotted at the tip with brownish white or ochreous brown; quills dusky brown, the secondaries externally edged with dull yellowish white, the inner webs of the quills more or less margined with dull white; shafts brown; upper tail-coverts white barred with dusky;

tail typical; nasal plumes buff tipped with black; top of the head, supercilium, occiput, and nape black, the feathers of the forehead and crown tipped with scarlet, the remainder spotted with pure white; hind neck brownish white barred with dusky; sides of the face and neck, and from the chin to the under tail-coverts (both inclusive), dull white, slightly buff on the flanks and thighs, the ear-coverts ochreous brown, the whole being barred evenly with black; under wing-coverts buffy white, with a dusky spot near the base of the primaries. Total length 3·7 inches, culmen 0·53, wing 2·15, tail 1·25, tarsus 0·55; toes (without claws)—outer anterior 0·43, outer posterior 0·43, inner anterior 0·32, inner posterior 0·28.

Adult female. Wants the red on the head, the forehead and crown being spotted with white like the occiput and nape. In other respects it resembles the adult male. Total length 3·6 inches, culmen 0·5, wing 2·1, tail 1·15, tarsus 0·5.

Hab. Eastern Brazil (Provinces of Bahia and Rio Janeiro), and ranging westward into Paraguay.

a. ♀ ad. sk.	Brazil.	M. Claussen [P.].
b, *c*. ♂ ad. sk.	Brazil.	Gould Coll.
d. ♀ ad. sk.	Brazil.	J. Gould, Esq. [P.]. *P. azaræ* of Gray's List, p. 24.
e, *f*. ♂ ♀ ad. sk.	Brazil.	Sclater Coll.
g. ♂ imm. sk.	Bahia, Brazil (*Wucherer*).	Sclater Coll.
h. ♂ ad. sk.	Rio de Janeiro, Brazil.	Salvin-Godman Coll.
i. ♀ ad. sk.	Rio de Janeiro (*J. Natterer*).	Sclater Coll.
k, *l*. ♂; *m*. ♀ ad. sk.	Novo Friburgo, Brazil (*J. Vouds*).	Salvin-Godman Coll.

8. Picumnus spilogaster.

Yunx minutissima, *Gm. Syst. Nat.* i. p. 423 (1788); *Vieill. N. Dict. d'Hist. Nat.* xxxiv. p. 230 (1819); *id. Gal. Ois.* i. pl. xxviii. (1825); *Less. Traite*, i. p. 232 (1831), pt.

Picus minimus, *Shaw & Nodd. Nat. Miscell.* ii. pl. xliv. (1790).

Picus minutus (*non Linn.*), *Lath. Ind. Orn.* i. p. 243 (1790); *Steph. Gen. Zool.* ix. p. p. 211, pl. xxxvi. (1815).

Iynx minutissima, *Licht. Cat. Rer. Hamb.* p. 16 (1793).

Picus minutissimus, *Temm. Syst. Cat.* p. 64 (1807).

Yunx cayennensis, *Steph. Gen. Zool.* xiv. p. 172 (1826).

Picumnus minutissimus, *Neuweid, Beitr. Naturg. Bras.* iv. p. 378 (1832).

Piculus minutus (*non Linn.*), *Geoffr. St.-Hilaire, N. Ann. Mus.* 1832, p. 397.

Picumnus cayennensis, *Lafr. Rev. Zool.* 1845, pp. 6, 111 (pt.).

Picumnus spilogaster, *Sundev. Consp. Av. Picin.* p. 100 (1866); *Gray, List Picid. Brit. Mus.* p. 26 (1868); *id. Hand-l. B.* ii. p. 179, no. 8511 (1870).

Adult female. Resembles *P. cirrhatus* on the upper parts, but differs below: the chin, throat, and chest, only, being barred with black, and this more narrowly; the breast and remaining under-parts having drop-like spots of black, the breast-feathers having the apical margin dusky, the flanks and thighs transversely spotted;

the under tail-coverts dusky at the base, and having the apical portion uniform, or at the most very minutely spotted with dusky; the ear-coverts blacker. Total length 3·5 inches, culmen 0·52, wing 2·14, tail 1·15, tarsus 0·53; toes (without claws)—outer anterior 0·5, outer posterior 0·5, inner anterior 0·3, inner posterior 0·25.

Adult male. Differs from the adult female in having the feathers of the crown broadly tipped with scarlet. Total length 3·6 inches, culmen 0·53, wing 2·1, tail 1·15, tarsus 0·55.

Hab. Guiana.

9. Picumnus orbignyanus.

Picumnus d'orbignyanus, *Lafr. Rev. Zool.* 1845, pp. 7, 111; *Gray, Gen. B.* ii. p. 432 (1845); *Reichenb. Scans. Picinæ*, p. 345, no. 789 (1854); *Cab. & Heine, Mus. Hein.* iv. p. 15 (1863); *Gray, Hand-l. B.* ii. p. 179, no. 8510 (1870).

Picumnus orbignyanus, *Bp. Consp. Gen. Av.* i. p. 141 (1850); *Malh. Picidæ*, ii. p. 283 (1862); *Sundev. Consp. Av. Picin.* p. 100 (1866); *Gray, List Picid. Brit. Mus.* p. 25 (1868); *Pelz. Orn. Bras.* p. 442 (1870).

Microcolaptes orbignyanus, *Bp. Consp. Volucr. Zygod.* p. 11, no. 247 (1854).

Picumnus exilis (*non Licht.*), *Malh. Picidæ*, ii. p. 295, text only (1862); *White, Cam. Silv.-Land*, ii. p. 333 (1882).

Picumnus, sp. inc., *Salv. Ibis*, 1880, p. 360; *Durnf. in Diary, t. c.* pp. 423, 428; *White, P. Z. S.* 1882, p. 616.

Adult female. Back and scapulars ashy umber-brown, spotted with dull white; the rump darker brown with brownish-white bars; quills dark brown, the outer webs of the secondaries edged with brownish white, the inner webs of the quills more or less margined with whitish; shafts brown; upper tail-coverts white barred with blackish; tail typical; nasal plumes rufous buff; forehead, crown, supercilium, and occiput black, with rounded spots of pure white, the nape also black with drop-like spots of white; hind neck dusky with whitish bars; sides of the face and neck white, the feathers having a dusky apical margin, the ear-coverts with dusky brown bases, and having a spotted appearance; from the chin to the under tail-coverts (both inclusive) white, the feathers of the chin and throat margined with black, the chest barred, the upper breast and sides of lower breast spotted, the flanks, thighs, and under tail-coverts barred with black, the feathers of the middle portion of the lower breast margined at the tip with blackish, and having a scaly appearance; under wing-coverts white, with a dusky brown spot near the base of the primaries: "iris wood-brown; beak dark horn-colour, base of lower mandible lighter; legs and feet olive-green" (*H. Durnford*). Total length 3·5 inches, culmen 0·48, wing 2·08, tail 1·28, tarsus 0·5; toes (without claws)—outer anterior 0·36, outer posterior 0·4, inner anterior 0·22, inner posterior 0·18.

Adult male. "Has the crown-feathers tipped with red." (*Sundevall.*)

Hab. Extreme north of the Argentine Republic (Salta).

a, b, c. ♀ ad. sk. Salta, Argent. Rep., June H. Durnford, Esq. [C.].

10. Picumnus sclateri.

Picumnus sclateri, *Tacz. P. Z. S.* 1877, p. 327; *Sclat. & Salv. op. cit.* 1878, p. 140; *Berl. & Tacz. op. cit.* 1883, pp. 537, 570, 1885, p. 122; *Tacz. Orn. Pérou*, iii. p. 66 (1886).

Adult female. Back, scapulars, and rump umber-brown, transversely varied with paler brown; wing-coverts umber-brown margined with brownish white; quills brown, the secondaries externally margined with dull yellowish white, the inner webs of the quills more or less margined with dull white; shafts brown; upper tail-coverts dull white crossed by dusky bars; tail typical; nasal plumes and lores white; top of the head, supercilium, occiput, and nape deep black, the nape with small longitudinal spots of white, the remainder having larger rounded white spots; sides of the face (except the ear-coverts) and neck, hind neck, chin, throat, and chest white barred with black, the ear-coverts brown; underparts below the chest, also the under tail-coverts, creamy white striped with dusky brown; under wing-coverts buffy white, with a dusky brown spot near the base of the primaries. Total length 3·2 inches, culmen 0·5, wing 2·07, tail 1·12, tarsus 0·56; toes (without claws)—outer anterior 0·4, outer posterior 0·4, inner anterior 0·25, inner posterior 0·2.

Young. Have the top of the head blackish brown (not deep black) with short and narrow white stripes.

Adult male. "Differs from the adult female in having the sincipital white-spotted feathers tipped with sulphur-yellow. Wing 2·05 inches, tail 0·95, bill 0·6, tarsus 0·43." (*Taczanowski.*)

Hab. The extreme north-west of Peru (Lechugal and Tumbez), and north into Western Ecuador (Guayaquil and the Balzar Mountains).

a. ♀ ad. sk.	Guayaquil, Ecuador (*J. Stolzmann*).	Sclater Coll.
b. ♀ ad. sk.	Guayaquil (*J. Stolzmann*).	Salvin-Godman Coll.
c, d. ♀ ad. et juv. sk.	Balzar Mts., Ecuador (*Illingworth*).	Salvin-Godman Coll.

11. Picumnus sagittatus.

Picumnus sagittatus, *Sundev. Consp. Av. Picin.* p. 103 (1866); *Gray, List Picid. Brit. Mus.* p. 26 (1868); *id. Hand-l. B.* ii. p. 179, no. 8518 (1870); *Pelz. Orn. Bras.* pp. 241, 442 (1870).

Adult female. Back, scapulars, and rump pale umber-brown, sparingly spotted with white, each spot having at its base a small dusky spot; upper tail-coverts black spotted with white; wings and their coverts brown, the latter spotted like the back, the quills darker, except on the external margins of the secondaries, and having their inner webs margined with whitish; shafts light brown; tail typical; nasal plumes buffy white; top of the head, occiput, and nape black spotted with pure white; sides of the face and neck white barred with blackish brown, the ear-coverts washed with brown; malar region black spotted with white; from the chin to

the under tail-coverts (both inclusive) white, the throat, chest, and upper breast with sagittate markings of brownish black, the remainder striped with black, the stripes on the flanks and thighs drop-like; under wing-coverts dull white, the edge of the wing brown, and close to the edge a dusky spot. Total length 3·8 inches, culmen 0·53, wing 2·2, tail 1·35, tarsus 0·45; toes (without claws)—outer anterior 0·43, outer posterior 0·45, inner anterior 0·28, inner posterior 0·22.

Adult male. "Has the top of the head red." (*Pelzeln.*)

Hab. Province of Goyaz, from the Rio Tocantins to Cuyaba in South Matto Grosso.

12. Picumnus steindachneri.

Picumnus steindachneri, *Tacz. P. Z. S.* 1882, p. 40, pl. ii. figs. 1, 2, ♂ ♀; *id. Orn. Pérou*, iii. p. 67 (1886).

Adult male. Back, rump, and scapulars dusky grey, with a few almost obsolete whitish spots; wing-coverts dusky brown, with greyish-white margins; quills brown, the secondaries edged with greyish white, the inner webs of the quills more or less margined with dull white; shafts dark brown; upper tail-coverts white, with dusky marginal spots; tail typical; nasal plumes buff, tipped with black; lores, malar region, chin, and upper throat white, the feathers margined with black: top of the head, occiput, and nape black, the feathers of the forehead and fore part of the crown tipped with scarlet, the remainder spotted with pure white; posterior part of the face and side of the neck barred black and white; fore neck, chest, and breast deep black, with drop-like spots of white; the remainder of the underparts and the under tail-coverts broadly barred black and white; under wing-coverts creamy white, with a dusky spot near the base of the primaries, the edge of the wing varied with brown. Total length 3·5 inches, culmen 0·45, wing 2·28, tail 1·25, tarsus 0·52; toes (without claws)—outer anterior 0·38, outer posterior 0·38, inner anterior 0·23, inner posterior 0·2.

Adult female. "Similar to the male, but having the whole of the top of the head dotted with white. Total length 4·4 inches, wing 2·28, tail 1·26, bill 0·5, tarsus 0·42." (*Taczanowski.*)

Hab. North-east Peru (Chirimoto, in the valley of Huayabamba).

a. ♂ ad. sk. Chirimoto, Peru (*J. Stolzmann*). Sclater Coll.

13. Picumnus jelskii.

Picumnus albosquamatus (*non d'Orb.*), *Tsch. Av. Consp. Rep. Peruan. in Arch. für Naturg.* 1844, p. 302; *Cab. in Tsch. Faun. Peruan. Orn.* pp. 43, 264 (1845–46); *Tacz. P. Z. S.* 1874, p. 545.
Picumnus jelskii, *Tacz. P. Z. S.* 1882, p. 41, pl. ii. fig. 3, ♂; *id. Orn. Pérou*, iii. p. 68 (1886).

Adult male. Above ashy grey, the feathers edged with lighter grey and less distinct than in *P. steindachneri*, the black stripes in

the centre of the feathers indistinct; top of the head black, the feathers of the forehead and crown largely tipped with red, the remainder spotted with white: nasal plumes and base of the forehead ochreous; auricular region brownish grey; throat dirty whitish, the remainder of the underparts whitish, slightly tinged with yellow and varied with black spots, those of the chest having a barred character, those of the abdomen and flanks being somewhat heart-shaped; under tail-coverts whitish with one or two central spots of black; wings greyish brown, the coverts narrowly edged with light grey; the secondaries externally margined with whitish; inner webs of quills and under wing-coverts white; tail typical: "bill blackish, the mandible ashy at the base, yellowish in the middle, and blackish at the tip; feet grey; irides dark brown" (*Jelski*). Wing 2·26 inches, tail 1·18, bill 0·52, tarsus 0·43.

Adult female. Has the whole of the top of the head black, spotted with white. In other respects it resembles the adult male. Wing 2·2 inches, tail 1·22, bill 0·55, tarsus 0·43.

Never having seen this species, the above descriptions are extracted from Taczanowski's 'Ornithologie du Pérou.'

Hab. Central Peru (Paltaypampa, in the valley of Chancamayo).

14. Picumnus nebulosus.

Picumnus nebulosus, *Sundev. Consp. Av. Picin.* p. 103 (1866); *Gray, List Picid. Brit. Mus.* p. 27 (1868); *id. Hand-l. B.* ii. p. 180, no. 8521 (1870).

Female. "Back dusky rufescent and uniform, the rump of the same colour; underparts fulvous (or pale rufescent), the sides with large spots, longitudinal in shape, reddish dusky in colour, and of indeterminate form; middle of the belly paler (buffy white), varied with black spots. Feathers of the throat soft, broad, loose, black, broadly margined with ashy white. Head obscurely dusky (but not black; it may be a sign of youth), spotted with larger white points or dots; sides of the head black, spotted with white; wings more obscurely dusky, the margins of the coverts slightly bright fulvescent; the primaries not paler externally, the margins of the secondaries broadly fulvescent; tail-feathers black, striped with white, as in the others (*Picumni*); bill blackish, scarcely paler at the base; iris (according to the label) dusky. Length of wing 2·3 inches, tail 1·43." (*Sundevall.*)

The Salvin-Godman collection contains an example of this species, but as it appears to be slightly younger than Sundevall's type specimen, I quote the original description of the latter. The British Museum example differs from the type in having the spots on the dusky crown almost obsolete, and the feathers of the back, instead of being uniform, are margined at the tip with ochreous brown, while those of the rump have a barred appearance.

Hab. Peru (Huiro, valley of Urubamba).

a. Juv. sk. Huiro, valley of Urubamba, Peru, 4800 feet (*J. Orton*). Salvin-Godman Coll.

15. Picumnus pygmæus.

Picus pygmæus, *Licht. Verz. Doubl.* pp. 11, 12, note (1823).
Picumnus ocellatus, *Wagl. Isis*, 1829, p. 646; *Malh. Picidæ*, ii. p. 280 (1862); *Sundev. Consp. Av. Picin.* p. 97 (1866); *Gray, List Picid. Brit. Mus.* p. 28 (1868); *id. Hand-l. B.* ii. p. 180, no. 8528 (1870); *Pelz. Orn. Bras.* p. 442 (1870).
Picumnus pygmæus, *Gray, Gen. B.* ii. p. 432, pl. 107, ♂ ad. (1845); *Lafr. Rev. Zool.* 1845, pp. 7, 111; *Bp. Consp. Gen. Av.* i. p. 140 (1850); *Reichenb. Scans. Picinæ*, p. 344, no. 785, pl. cxvii. figs. 4117–18, ♂ ♂ (1854); *Burm. Th. Bras.* ii. p. 247 (1856); *Malh. Picidæ*, ii. p. 285, pl. cxv. figs. 3 ♂ ad., 4 ♀ ad., 5 ♂ juv. (1862); *Sclat. Cat. Amer. B.* p. 330, no. 1968 (1862); *Cab. & Heine, Mus. Hein.* iv. p. 23 (1863); *Salv. Cat. Strickl. Coll.* p. 382, no. 1865 (1882).
Piculus pygmæus, *Bp. Consp. Volucr. Zygod.* p. 11, no. 246 (1854).

Adult male. Above and below entirely brown, spotted with white, the spots more or less round and partially encircled with black, more particularly on the underparts; wing-coverts like the back; quills brown, the secondaries externally margined with ochreous brown, the inner webs of the quills margined with dull buffy white, the shafts brownish black; upper tail-coverts white, margined with dusky brown; tail typical; nasal plumes buffy white, tipped with black; top of the head, occiput, and nape black, the sincipital feathers tipped with scarlet, the remainder spotted with white; sides of the face and neck brown, the ear-coverts striped, the remainder spotted with white; under wing-coverts pale buff, with a dusky brown spot near the base of the primaries. Total length 3·5 inches, culmen 0·47, wing 1·97, tail 1·1, tarsus 0·48; toes (without claws)—outer anterior 0·37, outer posterior 0·37, inner anterior 0·28, inner posterior 0·18.

Adult female. Differs from the adult male in the absence of red on the top of the head, this being entirely black, spotted with white. Total length 3·5 inches, culmen 0·5, wing 2, tail 1·18, tarsus 0·48.

Young. Have the top of the head dusky brown, with almost obsolete paler brown transverse spots; the body, both above and below, is of a paler and more rufescent brown, the chin is whiter, the fore neck, chest, and middle of the breast have elongated and somewhat triangular spots of buffy white, not margined with black, the spots on the wing-coverts being similar; the underparts below the breast are buffy brown, with darker brown bars.

Hab. Eastern Brazil (provinces of Bahia and Rio Janeiro).

a. ♀ ad. sk.	Brazil.	M. Claussen [P.].
b. ♂ ad. sk.	Brazil.	Old Coll.
c, d. ♂; *e.* ♀ ad. sk.	Bahia (*Dr. Wucherer*).	Salvin-Godman Coll.
f, g. ♂; *h, i.* ♀ ad. sk.	Bahia.	Sclater Coll.
k. ♂; *l, m.* ♀ ad. sk.	Novo Fribourgo, Brazil (*J. Fouds*).	Salvin-Godman Coll.

16. Picumnus asterias.

Picumnus asterias, *Sundev. Consp. Av. Picin.* p. 97 (1866); *Gray, List Picid. Brit. Mus.* p. 28 (1868); *id. Hand-l. B.* ii. p. 180, no. 8529 (1870); *Pelz. Orn. Bras.* p. 442 (1870).

Adult. "Above dusky; below, from the bill to the anus, black, closely spotted with white. Similar to *P. pygmæus*, but with the under surface black, closely spotted with round spots of large size; the spots on the back also larger, but fewer in number; in the female (? young) less distinct. Flanks and vent black, banded with white. The crown, bill, &c. as in *P. pygmæus*. Wing 1·93 inches." (*Sundevall.*)

Hab. Brazil.

17. Picumnus guttifer.

Picumnus guttifer, *Sundev. Consp. Av. Picin.* p. 101 (1866); *Pelz. Orn. Bras.* p. 442 (1870).

Adult male. Back, scapulars, and rump brown, spotted with white, the spots being partially surrounded with dusky; upper series of the upper tail-coverts also brown with white tips, the lower series black, minutely spotted with white at the tip; wing-coverts like the back, but the spots rather smaller; quills brown, the secondaries externally margined with greyish white, the inner webs of the quills with whitish margins; shafts brown; tail typical; nasal plumes buff, with black tips; forehead and crown orange-scarlet, the bases of the feathers black; occiput, nape, and orbital region black, minutely spotted with pure white; ear-coverts brown, barred with greyish white; the remainder of the face, side of the neck, chin, throat, and fore neck black, with more or less drop-like spots of pure white; taking the remaining underparts as white, the feathers of the chest and breast are margined with black and have a black central stripe widening at the base on the chest; the remaining underparts are mainly striped with black, and the thighs as well as the under tail-coverts transversely spotted; the underparts have a very scaly appearance; under wing-coverts buffy white, the edge of the wing brown and a dusky spot near it. Total length 4 inches, culmen 0·5, wing 2·25, tail 1·35, tarsus 0·5; toes (without claws) —outer anterior 0·46, outer posterior 0·5, inner anterior 0·32, inner posterior 0·25.

Adult female. Differs from the adult male in the absence of red on the forehead and crown, the entire top of the head being black, spotted with pure white. Total length 4 inches, culmen 0·52, wing 2·3, tail 1·4, tarsus 0·5.

Hab. Provinces of Goyaz and Matto Grosso, Brazil.

a, b. ♂ ♀ ad. sk. Chapada, Matto Grosso, March, April (*H. H. Smith*). Salvin-Godman Coll.

18. Picumnus albosquamatus.

Picumnus albosquamatus, *Lafr. in d'Orb. Voy. Amér. Mérid.* iv. *Ois.* p. 380, pl. lxiv. fig. 2 (1835–44); *id. Rev. Zool.* 1845, pp. 7, 111; *Gray, Gen. B.* ii. p. 432 (1845); *Malh. Picidæ*, ii. p. 283, pl. cxv. fig. 2, ♂ (1862); *Cab. & Heine, Mus. Hein.* iv. p. 13 (1863); *Sundev. Consp. Av. Picin.* p. 103 (1866); *Gray, List Picid. Brit. Mus.* p. 26 (1868); *id. Hand-l. B.* ii. p. 179, no. 8516 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 98 (1873); *id. P. Z. S.* 1879, p. 631; *Salv. Cat. Strickl. Coll.* p. 382, no. 1867 (1882).

Picumnus albisquamatus, *Bp. Consp. Gen. Av.* i. p. 140 (1850); *Reichenb. Scans. Picinæ*, p. 345, no. 786, pl. dcxvii. fig. 4116, ♂ (1854).

Microcolaptes albisquamatus, *Bp. Consp. Volucr. Zygod.* p. 11, no. 250 (1854).

Adult male. Back, rump, and scapulars brownish dusky, with a few almost obsolete whitish spots; wing-coverts dusky brown, with paler brown margins and dull white spots; quills darker brown, the primaries whitish at the base of the inner web, the secondaries externally margined with dusky yellowish, the inner webs edged with buffy white; shafts dark brown; upper tail-coverts white margined at the tip with dusky; tail typical; nasal plumes and lores buffy white, the former tipped with black; the top of the head, occiput, nape, and supercilium black, the feathers of the forehead and crown tipped with vermilion, the remainder spotted with pure white; sides of the face and neck dull white, the feathers edged with black, the ear-coverts dark brown spotted with paler brown; chin and throat, chest, and breast white, the feathers elongated and edged with black, those of the breast having a black central stripe; remainder of the underparts and the under tail-coverts rufescent white, most of the feathers having a central stripe of black; under wing-coverts buffy white, with a dusky spot near the base of the primaries; bill black. Total length 3·5 inches, culmen 0·55, wing 2·1, tail 1·15, tarsus 0·55; toes (without claws)—outer anterior 0·38, outer posterior 0·38, inner anterior 0·3, inner posterior 0·2.

Adult female. Has no red on the top of the head, this being entirely black spotted with white. Total length 3·5 inches, culmen 0·5, wing 2·1, tail 1·3, tarsus 0·5.

Hab. Bolivia (Province of Yungas).

a. ♂ ad. sk.	Bolivia.	T. Bridges [C.].
b. ♂ ad. sk.	Bolivia.	Purchased.
c. ♀ ad. sk.	Tilotilo, Prov. Yungas, Bolivia (*C. Buckley*).	Salvin-Godman Coll.

19. Picumnus lepidotus.

Le Petit Pic de Cayenne, *Briss. Orn.* iv. p. 83 (1760).

Picumnus lepidotus, *Cab. & Heine, Mus. Hein.* iv. p. 14 (1863); *Sundev. Consp. Av. Picin.* p. 102 (1866); *Gray, List Picid. Brit. Mus.* p. 26 (1868); *id. Hand-l. B.* ii. p. 179, no. 8514 (1870); *Pelz. Orn. Bras.* p. 442 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 98 (1873); *Salv. Cat. Strickl. Coll.* p. 382, no 1866 (1882).

Picumnus squamiger, *Sundev. Consp. Av. Picin.* p. 102 (1866); *Gray, List Picid. Brit. Mus.* p. 26 (1868); *id. Hand-l. B.* ii. p. 179, no. 8517 (1870).

Adult male. Resembles *P. albosquamatus*, but differs in having the upper parts browner, with large fulvescent-white spots, and within and joining these a smaller spot of black; the feathers of the underparts not elongated, but shorter and rounder, with a very narrow black margin; the base of the bill conspicuously yellow. Total length 3·8 inches, culmen 0·53, wing 2·16, tail 1·17, tarsus 0·55; toes (without claws)—outer anterior 0·42, outer posterior 0·42, inner anterior 0·28, inner posterior 0·2.

Adult female. Has no red on the top of the head, the whole being spotted with white. Total length 3·75 inches, culmen 0·46, wing 2·15, tail 1·12, tarsus 0·53.

Hab. Surinam and Cayenne.

a. ♂ ad. sk.	[N. Brazil.]	Old Coll. Spec. *a* of Gray's List, p. 26.
b. ♂ ad.; *c*. ♀ imm. sk.	Cayenne.	Sclater Coll.
d. ♂ ad. sk.	Surinam.	Sclater Coll.

20. Picumnus squamulatus.

Picumnus squamulatus, *Lafr. Rev. Zool.* 1845, p. 208; *Sclat. P. Z. S.* 1855, p. 162; *id. Cat. Amer. B.* p. 331, no. 1970 (1862); *Malh. Picidæ*, ii. p. 282, pl. cxvii. figs. 3, 4, ♂ ♀ (1862); *Cab. & Heine, Mus. Hein.* iv. p. 14 (1863); *Sundev. Consp. Av. Picin.* p. 102 (1866); *Sclat. & Salv. P. Z. S.* 1868, p. 629; *Gray, List Picid. Brit. Mus.* p. 26 (1868); *id. Hand-l. B.* ii. p. 179, no. 8515 (1870); *Sclat. & Salv. Nomencl. Av. Neotr.* p. 98 (1873).

Microcolaptes squamulosus, *Bp. Consp. Volucr. Zygod.* p. 11, no. 251 (1854).

Picumnus albosquamatus (*non Lafr. & d'Orb.*), *Licht. Nomencl. Av.* p. 78 (1854).

Adult male. Back, rump, scapulars, and wing-coverts brown, the feathers margined with black, and having a subapical squamate marking of light fulvescent brown: quills dark brown, the secondaries externally margined with olive-yellow; inner webs of the quills more or less margined with white; shafts dark brown; upper tail-coverts yellowish white, with blackish margins; tail typical; nasal plumes reddish brown tipped with black; top of the head, occiput, and nape black, the feathers of the forehead and crown tipped with orange-scarlet, the remainder, including the supercilium, spotted with pure white; lores, sides of the face, and neck white, with a brown auricular stripe, the white feathers being narrowly margined with black; from the chin to the under tail-coverts, both inclusive, white, all the feathers margined with black, and having a squamate appearance; under wing-coverts buffy white margined with dusky, and having, near the base of the primaries, a dusky patch or spot. Total length 3·5 inches, culmen 0·5, wing 2·2, tail 1·2, tarsus 0·52; toes (without claws)—outer anterior 0·38, outer posterior 0·38, inner anterior 0·22, inner posterior 0·15.

Adult female. Differs from the adult male in having the feathers of the forehead and crown like those of the occiput and nape, black spotted with pure white. Total length 3·5 inches, culmen 0·48, wing 2·1, tail 1·03, tarsus 0·52.

Young female. Has the top of the head dusky, the feathers of the forehead and crown with a subterminal crescent-shaped marking of brownish white, the occipital feathers having a whiter subapical spot.

Hab. New Granada (Bogotá) and Venezuela, north to Caraccas.

a, b. ♂ ♀ ad. sk.	New Granada.	Sclater Coll.
c, d. ♂ ad. et imm. sk.	New Granada.	Gould Coll.
e, f. ♂ ♀ ad. sk.	New Granada.	Purchased.
g, h. ♀ ad. sk.	New Granada.	Salvin-Godman Coll.
i. ♀ imm. sk.	Venezuela.	Gould Coll.
k. ♀ ad. sk.	Caraccas, Venezuela.	Mr. Dyson [C.].
l. ♀ imm. sk.	San Esteban, Venezuela, Jan. (*A. Goering*).	Salvin-Godman Coll.
m. ♂ imm. sk.	San Esteban, Jan. (*A. Goering*).	Sclater Coll.

21. Picumnus iheringi.

Picumnus iheringi, *Berl. Ibis*, 1884, p. 441; *id. & Jher. in Madar. Zeitsch. gesamm. Orn.* ii. p. 156, pl. ix. fig. 1, ♂ (1885).

Adult male. Back, rump, and scapulars brown, with paler and more rufescent margins to the feathers; the upper tail-coverts buffy brown striped with black; wing-coverts blackish brown, narrowly margined with rufescent or brownish buff; quills blackish brown, whitish on more or less of the inner margin, the secondaries externally edged with rufescent buff; quills brownish black; tail typical; nasal plumes brownish white tipped with black; base of forehead brownish black spotted with white; remainder of forehead and anterior part of the crown crimson, the bases of the feathers black; the hinder part of the crown and the occiput black, the feathers having a white apical spot, and being very much elongated; lores and orbital region dusky, spotted with white; supercilium black spotted with white; sides of the neck and the nape dingy white, the ear-coverts and a broad stripe behind being rufescent brown varied with blackish; malar region, chin, and upper throat dusky black, the feathers tipped with white; entire underparts and under tail-coverts buff, more or less rufescent, broadly striped with dusky black; under wing-coverts buffy white. Total length 3·85 inches, culmen 0·47, wing 2·15, tail 1·35, tarsus 0·55; toes (without claws)—outer anterior 0·43, outer posterior 0·48, inner anterior 0·25, inner posterior 0·25.

Hab. South Brazil (Taquara do Mundo Novo, Province of Rio Grande do Sul).

22. Picumnus minutus *.

Pipra minuta, *Linn. Syst. Nat.* i. p. 340 (1766).
Picus exilis, *Licht. Verz. Doubl.* p. 11 (1823); *Burm. Th. Bras.* ii. p. 246 (1856).
Asthenurus minutus, *Swains. Zool. Journ.* iii. p. 353 (1828).
Picumnus cirratus (*non Temm.*), *Wagl. Isis*, 1829, p. 645.
Picumnus lichtensteinii, *Lafr. Rev. Zool.* 1845, p. 6.
Picumnus exilis, *Lafr. Rev. Zool.* 1845, p. 111 (pt.); *Gray, Gen. B.* ii. p. 432 (1845); *Cab. & Heine, Mus. Hein.* iv. p. 21 (1863).
Picumnus minutus, *Bp. Consp. Volucr. Zygod.* p. 11, no. 242 (1854); *Sundev. Consp. Av. Picin.* p. 98 (1866); *Gray, List Picid. Brit. Mus.* p. 25 (1868); *id. Hand-l. B.* ii. p. 179, no. 8504 (1870); *Pelz. Orn. Bras.* pp. 241, 442 (1870); *Salv. Cat. Strickl. Coll.* p. 382, no. 1864 (1882).
Picumnus hypoxanthus, *Reichenb. Scans. Picinæ*, p. 344, no. 783, pl. dcxvii. figs. 4112–3 (1854); *Malh. Picidæ*, ii. p. 294, pl. cxix. figs. 1, 2 (1862).
Picumnus guttatus, *Malh. Picidæ*, ii. p. 295, pl. cxix. fig. 3 (1862).
Picumnus buffoni (pt.), *Sclat. Cat. Amer. B.* p. 330, no. 1967 (1862).

Adult male. Back, rump, and scapulars olive, the feathers having yellow margins and blackish spots; upper tail-coverts yellowish white; wing-coverts olive dusky with yellowish margins, and having at the tip a yellowish-white and a black spot; quills brownish dusky, the outer webs of the secondaries and of the primaries at the base margined with olive-yellow, inner webs of quills more or less margined with whitish, the inner secondaries having whitish tips and a subapical black spot; shafts brownish black; tail black, the inner webs of the central pair of feathers white; the two outer large feathers on either side having a broad oblique white stripe from the base of the outer web to the tip of the inner web; shafts of the same colour as the surrounding web, the base of those of the central pair of feathers white; nasal plumes buffy white tipped with black; top of the head, occiput, and nape black, the sincipital feathers tipped with orange-scarlet, the remainder minutely spotted with white; face white, ear-coverts olive, side of the neck yellowish, the whole being barred with black; entire under surface of the body and under tail-coverts yellow, the chin and upper throat whiter, the whole being barred with black; under wing-coverts pale buff. Total length 3·2 inches, culmen 0·45, wing 2·05, tail 1·05, tarsus 0·5; toes (without claws)—outer anterior 0·37, outer posterior 0·37, inner anterior 0·2, inner posterior 0·15.

Adult female. Has no red upon the head, the forehead, crown, and occiput being deep black spotted with pure white. Total length 3·2 inches, culmen 0·5, wing 2, tail 1·15, tarsus 0·5.

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* I have examined the specimens which Sundevall regarded as typical of *P. minutus* of Linnæus; they are the yellow Brazilian bird, and, without hesitation, I accept Sundevall's decision, which would possibly be aided by tradition, instead of following Dr. Cabanis, who considers the less vividly coloured Guianan species to be the true *P. minutus*.

Young (sex?). Differs from the adult female in having the top of the head, occiput, and nape dusky, not deep black, spotted with dingy white on the forehead and crown, and striped with the same on the occiput and nape.

Hab. Brazil (Province of Bahia), extending westward into Peru.

a. ♂ ad. sk.	Brazil.	Purchased.
b. ♀ ad. sk.	Brazil.	Gould Coll.
c. ♂ ad. sk.	Brazil.	Sclater Coll.
d. ♀ ad. sk.	Bahia, Brazil.	Tweeddale Coll.
e, *f*, *g*. ♂; *h*. ♀ ad. sk.	Bahia (*Wucherer*).	Salvin-Godman Coll.
i, *k*. ♂ ♀ ad.; *l*. Juv. sk.	Bahia (*Wucherer*).	Sclater Coll.
m, *n*. ♂ ♀ ad. sk.	Peru (*Tschudi*).	Sclater Coll.

23. Picumnus undulatus.

Picumnus minutus (*non Linn.*), *Cab. in Schomb. Reis. Guian.* iii. p. 714 (1848); *id. & Heine, Mus. Hein.* iv. p. 17 (1863); *Salv. Ibis*, 1886, p. 57.

Picumnus minimus (*non Shaw & Nodd.*), *Sclat. Cat. Amer. B.* p. 330, no. 1969 (1862).

Picumnus undulatus, *Harg. Ibis*, 1889, p. 354.

Adult male. Resembles *P. minutus*, but may be distinguished by its darker and brownish-olive upper parts, crossed by broad and wavy dusky markings, and narrow wavy markings of yellow; the spotting on the wing-coverts less distinct; the under surface of the body very much less yellow. Total length 3·5 inches, culmen 0·4, wing 2·1, tail 1·1, tarsus 0·5; toes (without claws)—outer anterior 0·33, outer posterior 0·33, inner anterior 0·2, inner posterior 0·15.

Adult female. Has the forehead and crown like the occiput and nape, black spotted with pure white. Total length 3·3 inches, culmen 0·42, wing 2, tail 1·05, tarsus 0·48.

Young. Have the top of the head dusky, instead of deep black, the forehead and crown with rounded spots of dull white, the occiput and nape having stripes or stripe-like spots of the same; the transverse markings above less distinct, and the underparts with only a faint tinge of yellow.

Hab. British Guiana, Surinam, and Cayenne.

a. ♂ ad. sk.	S. America.	Sclater Coll.
b. ♂ ad.; *c*. ♀ imm. sk.	River Oyapock, Cayenne.	Sclater Coll.
d. ♂ ad. sk.	River Oyapock, Cayenne.	Salvin-Godman Coll.
e, *f*, *g*. ♂; *h*, *i*, *k*. ♀ ad. sk.	Merumé Mts., British Guiana, June, July (*H. Whitely*).	Salvin-Godman Coll.
l, *m*. ♂ ad. et juv. sk.	Roraima, Nov., Dec. (*H. Whitely*).	Salvin-Godman Coll.
n, *o*. ♂ ♀ ad. sk.	Roraima, Nov. (*H. Whitely*).	Sclater Coll.
p, *q*. ♂ ♀ ad. sk.	Camacusa, May (*H. Whitely*).	Salvin-Godman Coll.

24. Picumnus buffoni.

Très petit pic de Cayenne, *Buff. Hist. Nat. Ois.* vii. p. 37 (1780); *Daubent. Pl. Enl.* no. 786; *Bodd. Tabl. Pl. Enl.* p. 49, no. 786 (1783).

Picumnus minutissimus, *Temm. Pl. Col.* livr. 62e, Picumn. sp. 1 (1825).

Picumnus buffoni, *Lafr. Rev. Zool.* 1845, pp. 6, 9; *Gray, Gen. B.* ii. p. 432 (1845); *Bp. Consp. Gen. Av.* i. p. 140 (1850); *id. Consp. Volucr. Zygod.* p. 11, no. 245 (1854); *Reichenb. Scans. Picinæ*, p. 344, no. 782, pl. dcxvi. fig. 4111, ♂ (1854); *Sclat. Cat. Amer. B.* p. 330, no. 1967 (1862) (pt.); *Cab. et Heine, Mus. Hein.* iv. p. 23 (1863); *Sundev. Consp. Av. Picin.* p. 99 (1866); *Gray, List Picid. Brit. Mus.* p. 25 (1868); *id. Hand-l. B.* ii. p. 179, no. 8505 (1870); *Pelz. Orn. Bras.* p. 442 (1870).

Picumnus guttatus, *Reichenb. Scans. Picinæ*, p. 344, no. 784, pl. dcxvii. figs. 4114–5 (1854).

Picumnus exilis (*non Licht.*), *Malh. Picidæ*, ii. pl. cxvi. figs. 5 ♂, 6 ♀ (not text) (1862).

Picumnus guttifer (*non Sundev.*), *Gray, List Picid. Brit. Mus.* p. 26 (1868); *id. Hand-l. B.* ii. p. 179, no. 8513 (1870).

Adult male. Resembles *P. minutus*, but differs in having the back and scapulars spotted with white or yellowish white, the spots being partially margined with black; the upper parts duller in colour, the feathers wanting the yellow margins; the wing-coverts with longitudinal and somewhat triangular spots of white edged with black, and without the black subapical spot. Total length 3 inches, culmen 0·43, wing 1·95, tail 1, tarsus 0·47; toes (without claws)—outer anterior 0·4, outer posterior 0·4, inner anterior 0·27, inner posterior 0·2.

Young male. Differs from the adult female in having the top of the head dusky, not black, the forehead and crown with bars and transverse spots of smoky white, the occiput and nape having stripe-like spots of dull white; the spots on the upper parts rather larger and of a dull yellow.

Adult female. Differs from the adult male in the absence of red on the top of the head, this being entirely black spotted with white. Total length 3 inches, culmen 0·48, wing 2·05, tail 1·05, tarsus 0·5.

Hab. Cayenne.

a. ♀ ad. sk.	[Brazil.]	Purchased.
b. ♂ ad. sk.	[Brazil.]	J. Gould, Esq. [P.]. *P. guttifer* of Gray's List, p. 26.
c. ♂ ad. sk.	Cayenne.	Sclater Coll.
d. ♂ ad. sk.	Cayenne.	Salvin-Godman Coll.
e, *f*. ♂ ad. et juv. sk.	R. Oyapock, Cayenne (*Jelski*).	Salvin-Godman Coll.

25. Picumnus punctifrons.

Picumnus aurifrons (*non Pelz.*), *Tacz. P. Z. S.* 1874, p. 546, 1882, p. 42.

Picumnus punctifrons, *Tacz. Orn. Pérou*, iii. p. 65 (1886).

Adult male. Resembles *P. aurifrons* in having the sincipital feathers tipped with golden yellow, but differs in having the hinder

part of the crown, occiput, and nape black spotted with pure white; the entire underparts are barred with olive-black, the ground-colour being yellow; the upper parts and scapulars are deeper olive barred with dull yellowish olive; the greater series of wing-coverts have an apical white spot, and within this and joining it a spot of dusky black: "irides grey" (*Stolzmann*). Total length 3 inches, culmen 0·48, wing 2·05, tail 1, tarsus 0·48; toes (without claws)—outer anterior 0·35, outer posterior 0·35, inner anterior 0·23, inner posterior 0·15.

Adult female. "Differs only from the male in having the spots on the forehead white, like the remainder of the top of the head. Total length 3·7 inches, wing 1·94, tail 0·92, bill 0·52, tarsus 0·43." (*Taczanowski.*)

Young, in first plumage. "Differ from the adult in having the back of a browner tint, the margins of the feathers reddish olive; the spots on the top of the head ochreous white; the throat with scarcely any dark bars; the bars on the abdomen more broken; the margins of the secondary and tertiary quills less striking." (*Taczanowski.*)

Hab. Central and North-east Peru (Monterico and Huambo).

a. ♂ ad. sk. Huambo, Peru, Feb. (*J. Stolzmann*). Sclater Coll.

26. Picumnus lafresnayii.

Picumnus lafresnayei, *Malh. Picidæ*, ii. p. 282, pl. cxviii. figs. 4, 5, ♂ ♀ (1862); *Cab. & Heine, Mus. Hein.* iv. p. 17 (1863); *Gray, List Picid. Brit. Mus.* p. 25 (1868); *id. Hand-l. B.* ii. p. 179, no. 8508 (1870).

Picumnus lafresnayi, *Sundev. Consp. Av. Picin.* p. 100 (1866); *Tacz. & Berl. P. Z. S.* 1885, p. 106; *Tacz. Orn. Pérou*, iii. p. 70 (1886)*.

Adult male. Differs from *P. minutus* in wanting the blackish spots above, the upper parts being deep olive with dull yellowish bars; the wing-coverts brownish olive with yellowish-olive margins, and without any spots of black or white; the olive-yellow external margins to the secondaries are broken by dusky spots; the top of the head, occiput, and nape are deep umber-brown, the sincipital feathers very minutely tipped with scarlet, the remaining parts being spotted with white, but the spots are more or less surrounded with black; underparts less yellow, and the bars fewer and broader; the dimensions are rather less. Total length 3 inches, culmen 0·43, wing 1·9, tail 0·87, tarsus 0·45; toes (without claws)—outer anterior 0·35, outer posterior 0·35, inner anterior 0·25, inner posterior 0·15.

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* Dr. Taczanowski gives *P. buffoni* of Sclater and Salvin, P. Z. S. 1866, p. 196, 1873, p. 291, as a synonym of the present species. The specimens mentioned in the above papers were collected by Mr. Edward Bartlett in Peru, and are not *P. lafresnayii*; they may be known from the latter by the male having the sincipital feathers tipped with yellow, and it is upon Mr. Bartlett's birds that I have founded my new species *P. flavifrons*. We have no authentic record of *P. lafresnayii* being found in Peru.

Adult female. Has the forehead and crown spotted with white like the occiput and nape, the red which characterizes the male being wanting. Total length 3 inches, culmen 0·42, wing 2·12, tail 0·9, tarsus 0·42.

Young. Differ from the adult in having the top of the head, occiput, and nape brownish dusky striped with dingy white.

Hab. South-eastern Ecuador, north to Sarayacu.

a, *b*. ♂ ad.; *c*. ♀ ad. sk. Sarayacu, Ecuador (*C. Buckley*). Salvin-Godman Coll.
d, ♂ ad.; *e*. ♀ juv. sk. Sarayacu, Ecuador (*C. Buckley*). Sclater Coll.

27. Picumnus aurifrons.

Picumnus aurifrons, *Pelz. Orn. Bras.* pp. 241, 334, 442 (1870); *Gray, Hand-l. B.* ii. p. 179, no. 8519 (1870); *Pelz. & Lorenz, Ann. k.-k. Naturhist. Hofm. Wien*, p. 42 (1888).

Adult male. Above, including scapulars, olive-brown, the feathers of the rump and the upper tail-coverts tipped with olive-yellow; wing-coverts olive-brown margined with yellowish olive; quills dusky brown, the outer webs of the primaries marrowly margined with greyish yellow, those of the secondaries more broadly margined with olive-yellow, the inner webs of the quills more or less margined with buffy white; shafts dark brown; upper tail-coverts yellowish white; tail typical, the white on the feathers tinged with yellow; nasal plumes and lores dull buffy white, the former tipped with black; top of the head, occiput, and nape brownish black, the sincipital feathers tipped with golden yellow, the remainder spotted with white, the nuchal spots having a striated character; sides of the face and neck dull yellowish white, the ear-coverts striped, the malar region barred, and the side of the neck spotted with black; chin and throat dull white, the under surface of the body and under tail-coverts dull yellowish white; the chest barred with dusky black, the remaining underparts striped with the same; under wing-coverts pale buff. Total length 3 inches, culmen 0·4, wing 1·9, tail 0·9, tarsus 0·45; toes (without claws)—outer anterior 0·3, outer posterior 0·3, inner anterior 0·22, inner posterior 0·15.

Immature male. Has the sincipital feathers tipped with yellow as in the adult male, but those of the hinder crown and occiput are of an umber-brown more or less striped with dull white, and on the forehead and crown some of the blackish-brown feathers which characterize the adult are appearing; the markings on the underparts are similar to those of the adult but fainter, and the ground-colour of the breast and abdomen slightly whiter.

Female (not fully adult). "Similar to the male but less, and with the crown entirely spotted with white" (*Pelzeln*).

Hab. Upper Amazon Region (Borba and following the course of the Rio Madeira).

a. ♂ ad. sk. Rio Madeira, Oct. 10 (*J. Natterer*). Sclater Coll.
b. ♂ imm. sk. Borba, Aug. 30 (*J. Natterer*). Sclater Coll.

28. Picumnus borbæ.

Picumnus borbæ, *Pelz. Orn. Bras.* pp. 241, 334, 442 (1870); *Gray, Hand-l. B.* ii. p. 179, no. 8512 (1870); *Pelz. & Lorenz, Ann. k.-k. Naturhist. Hoffm. Wien*, p. 42 (1888).

Adult male. "Similar to *P. aurifrons*, but having the top of the head spotted anteriorly with red instead of yellow" (*Pelzeln*). "Iris dark brown; hinder half of lower mandible blue-grey; upper mandible deep black; feet and claws dark blue-grey. Total length 4·2 inches, expanse 6·9; the tail reaches 0·5 beyond the tip of the wing" (*Natterer*).

Adult female. "Wants the red on the top of the head." (*Pelzeln.*)

Hab. Borba, Miranha, Brazil, and extending to the Ucayali River in Peru *.

29. Picumnus flavifrons. (Plate XIV.)

Picumnus buffoni (*non Lafr.*), *Selat. & Salv. P. Z. S.* 1866, p. 196, 1873, p. 290.
Picumnus flavifrons, *Harg. Ibis*, 1889, p. 229.

Adult male. Resembles *P. aurifrons* in having the top of the head, occiput, and nape black, the sincipital feathers tipped with golden yellow, the remainder spotted with white; but differs in having the under surface of the body yellower, the chest barred with black, and the parts below spotted (not striped) with black. Total length 3·5 inches, culmen 0·45, wing 2·05, tail 0·95, tarsus 0·45; toes (without claws)—outer anterior 0·3, outer posterior 0·3, inner anterior 0·2, inner posterior 0·15.

Young female. Has the top of the head, occiput, and nape dusky brown striped with white; the underparts are very yellow, and the chest is barred as in the adult, but the breast and abdomen, instead of being spotted, are striped with dusky brownish olive.

Hab. Sarayacu, Peru.

a, b. ♂ ad. et ♀ juv. sk. Sarayacu, E. Peru, July. E. Bartlett [C.]. (Types of the species.)

The young specimen was obtained by Mr. E. Bartlett at Sarayacu, Peru, upon the same day as the adult male above described, and is evidently the young of the same species. It very much resembles the young of *P. aurifrons*.

30. Picumnus wallacii. (Plate XIV.)

Picumnus wallacii, *Harg. Ibis*, 1889, p. 230.

Adult male. Resembles *P. flavifrons* from Sarayacu, Peru, but may be distinguished by the umber-brown ground-colour of the feathers on the top of the head, these, however, anteriorly being

* An example in my own collection from the latter locality corresponds in every way with Dr. Pelzeln's description of *P. borbæ*, and is without doubt that species.

similarly tipped with yellow, and posteriorly spotted with white; the barring on the chest, and the spotting below this, being dusky olive. Total length 3·2 inches, culmen 0·48, wing 1·95, tail 0·95, tarsus 0·46; toes (without claws)—outer anterior 0·35, outer posterior 0·35, inner anterior 0·23, inner posterior 0·18.

Hab. Upper Amazons.

a. ♂ ad, sk. Upper Amazons (*A. R. Wallace*). Sclater Coll. (Type of species.)

31. Picumnus olivaceus.

Picumnus olivaceus, *Lafr. Rev. Zool.* 1845, pp. 7, 111; *Gray, Gen. B.* ii. p. 432 (1845); *Bp. Consp. Gen. Av.* i. p. 141 (1850); *Reichenb. Scans. Picinæ*, p. 345, no. 788 (1854); *Malh. Picidæ*, ii. p. 295, pl. cxx. figs. 4–6 (1862); *Cab. & Heine, Mus. Hein.* iv. p. 11 (1863); *Sundev. Consp. Av. Picin.* p. 104 (1866); *Gray, List Picid. Brit. Mus.* p. 27 (1868); *id. Hand-l. B.* ii. p. 179, no. 8520 (1870); *Sclat. P. Z. S.* 1870, p. 837.

Microcolaptes olivaceus, *Bp. Consp. Volucr. Zygod.* p. 11, no. 249 (1854).

Picumnus granadensis (*non Lafr.*), *Sclat. P. Z. S.* 1855, p. 162 (pt.); *Sclat. Cat. Amer. B.* p. 331, no. 1971 (1862).

Picumnus flavotinctus, *Ridgw. Proc. U. S. Nat. Mus.* 1888, p. 543 *.

Adult male. Back, rump, and scapulars pale brownish olive; wing-coverts pale brown margined with yellowish olive; quills dusky brown, the primaries at the base and the secondaries along their whole length externally margined with olive-yellow, the inner webs of the quills more or less margined with dull white; shafts dark brown; upper tail-coverts yellowish white; tail typical; nasal plumes black, with yellowish-white bases; the top of the head, supercilium, occiput, and nape black, the feathers of the forehead and crown tipped with orange-scarlet, the remainder spotted with pure white; anterior half of face white, the feathers margined with black; posterior half of the face and side of the neck pale olivaceous brown; the ear-coverts darker brown; chin and upper throat yellowish white, the upper feathers margined with black; chest olivaceous or yellowish brown, the remainder of the under-parts and under tail-coverts yellow striped with olive dusky or brownish; under wing-coverts pale buff, with a dusky brown spot near the base of the primaries. Total length 3·5 inches, culmen 0·5, wing 2·1, tail 1·15, tarsus 0·48; toes (without claws)—outer anterior 0·35, outer posterior 0·35, inner anterior 0·22, inner posterior 0·18.

Adult female. Differs from the adult male in having the entire top of the head black spotted with white. Total length 3·5 inches, culmen 0·5, wing 2·2, tail 1·15, tarsus 0·5.

Hab. Eastern part of New Granada, and reappearing in Costa Rica and Honduras.

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* I cannot agree with Dr. Ridgway in separating this bird from the Colombian *P. olivaceus*; the differences given by this author are, to my mind, rather subtle.

a, b. ♂ ♀ ad. sk.	Bogotá, U. S. Colombia.	Gould Coll.
c, d. ♂ ad. sk.	Bogotá.	Salvin-Godman Coll.
e, f. ♂ ♀ ad. sk.	Bogotá.	Sclater Coll.
g. ♂ ad. sk.	Bogotá.	Purchased.
h. ♂ ad. sk.	Julian, Honduras (*G. M. Whitely*).	Salvin-Godman Coll.
i. ♂ ad. sk.	San Pedro, Honduras (*G. M. Whitely*).	Salvin-Godman Coll.

Subsp. *a.* Picumnus granadensis.

Picumnus granadensis, *Lafr. Rev. Zool.* 1845, p. 78; *Gray, Gen. B.* iii. App. p. 21 (1849); *Bp. Consp. Gen. Av.* i. p. 141 (1850); *Reichenb. Scans. Picinæ*, p. 345, no. 790 (1854); *Sclat. P. Z. S.* 1860, pp. 95, 287; *Malh. Picidæ*, ii. pl. cxviii. fig. 3 (1862); *Sclat. Cat. Amer. B.* p. 331, no. 1971 (1862); *Cab. & Heine, Mus. Hein.* iv. p. 12 (1863); *Sundev. Consp. Av. Picin.* p. 104 (1866); *Gray, List Picid. Brit. Mus.* p. 27 (1868); *id. Hand-l. B.* ii. p. 180, no. 8522 (1870); *Salv. Ibis*, 1874, p. 323; *Berl. & Tacz. P. Z. S.* 1883, p. 570, 1885, pp. 68, 106.

Microcolaptes granadensis, *Bp. Consp. Volucr. Zygod.* p. 11, no. 248 (1854).

Picumnus olivaceus (*non Lafr.*), *Salv. P. Z. S.* 1870, p. 212; *id. & Sclat. op. cit.* 1879, p. 532; *Berl. & Tacz. P. Z. S.* 1884, p. 282.

Adult male. Resembles *P. olivaceus*, but differs in having the feathers of the crown tipped with golden yellow. Total length 3·5 inches, culmen 0·5, wing 2·15, tail 1·15, tarsus 0·5; toes (without claws)—outer anterior 0·38, outer posterior 0·38, inner anterior 0·22, inner posterior 0·15.

Adult female. Has no yellow on the top of the head, the forehead and crown being like the occiput and nape, black spotted with pure white. Total length 3·5 inches, culmen 0·5, wing 2·12, tail 1·05, tarsus 0·5.

Hab. Western part of Ecuador and of the U. S. of Colombia, extending to Puerto Cabello in Venezuela, and north into Chiriqui.

a. ♂ ad. sk.	Chiriqui, Veragua (*Arcé*).	Sclater Coll.
b, c. ♂ ♀ ad. sk.	Bugaba, Chiriqui (*Arcé*).	Salvin-Godman Coll.
d, e. ♂ ♀ ad. sk.	Panama (*J. McLeannan*).	Salvin-Godman Coll.
f, g. ♂ ♀ ad. sk.	Medellin, Antioquia, U. S. C. (*T. K. Salmon*).	Salvin-Godman Coll.
h. ♂ ad. sk.	Puerto Cabello, Venezuela.	Sclater Coll.
i, k. ♂ ♀ ad. sk.	Babahoyo, Ecuador (*L. Fraser*).	Sclater Coll.
l. ♂ ad. sk.	Monji, Ecuador (*C. Buckley*).	Salvin-Godman Coll.

32. Picumnus innominatus.

Picumnus innominatus, *Burton, P. Z. S.* 1835, p. 154; *Blyth, J. A. S. Beng.* xii. p. 1005 (1843); *Gray, Gen. B.* ii. p. 433 (1845); *id. Cat. Mamm. &c. Nepal pres. Hodgs.* p. 114 (1846); *Lafr. Rev. Zool.* 1847, p. 79, note; *Blyth, Cat. B. Mus. As. Soc.* p. 65 (1849); *Malh. Picidæ*, ii. p. 278, pl. cxvii. figs. 5, 6 (1862); *Sundev. Consp. Av. Picin.* p. 105 (1866); *Pelz. Ibis*, 1868, p. 320; *Gray, List Picid. Brit. Mus.* p. 28 (1868); *id. Hand-l. B.* ii. p. 180, no. 8531 (1870).

Vivia nipalensis, *Hodgs. J. A. S. Beng.* vi. p. 107 (1837); *id. Icon. ined. Brit. Mus.* App. pl. 35. figs. 1, 2 (No. 161 ♂, 162 ♀).
Piculus nipalensis, *Blyth, J. A. S. Beng.* xii. p. 1005 (1843); *Hodgs. in Gray's Zool. Misc.* p. 85 (1844, ♂).
Piculus rufifrons, *Hodgs. in Gray's Zool. Misc.* p. 85 (1844, ♀).
Vivia innominata, *Jardine, Contr. Orn.* p. 300 (1848–52); *Bp. Consp. Gen. Av.* i. p. 140 (1850); *Horsf. & Moore, Cat. B. Mus. E. I. Co.* ii. p. 677 (1856); *Jerd. B. Ind.* i. p 300 (1862); *Gray, Cat. Mamm. &c. Nepal pres. Hodgs.* 1863, p. 62; *Gould, B. Asia,* vi. pl. xxxix. ♂, ♀ (1870); *Blyth & Wald. B. Burm.* p. 78 (1875); *Brooks, Str. F.* 1875, p. 232; *Hume, op. cit.* 1877, p. 351; *id. & Davison, op. cit.* 1878, vi. p. 148; *Scully, tom. cit.* pp. 250, 365; *Hume, op. cit.* 1879, p. 88; *Salvad. Ann. Mus. Civic. Genov.* xiv. p. 184 (1879); *Hargitt, Ibis,* 1881, p. 223; *Davison, Str. F.* x. p. 357 (1883); *Oates, B. Brit. Burm.* ii. p. 24 (1883); *Sharpe, P. Z. S.* 1887, p. 443; *Hume, Str. F.* xi. p. 64 (1888).
Vivia nepalensis, *Reichenb. Scans. Picinæ,* p. 342, pl. dcxviii. figs. 4120–4121 (1854).
Pipiscus innominatus, *Cab. & Heine, Mus. Hein.* Th. iv. p. 9 (1863).

Adult male. Back, rump, and scapulars golden olive, the upper tail-coverts yellowish white margined with olive, some of the outermost being black, but all hidden by the rump-feathers; wing-coverts brown, washed on the margins with olive; quills brown, margined externally with golden olive, the inner webs margined more or less at the base with whitish; shafts dark brown; tail typical; nasal plumes pale yellow tipped with black; the base of the forehead olive, the remainder of the sincipital feathers black margined with reddish orange; hinder part of the crown and the hind neck olive without any golden tinge; lores and side of the face white, the side of the neck yellowish and spotted with blackish olive; behind the eye a broad blackish brown, or slightly olive, stripe runs backwards down the side of the neck, and there is a malar stripe of the same colour and barred with white; chin and throat grading from white to yellowish and transversely spotted with black, the entire underparts and under tail-coverts yellow, the chest and breast covered with rounded spots of black, the remainder barred with black; wing-lining yellow with a black patch near the base of the primaries; axillaries white; "bill plumbeous black; irides brown; feet darkish plumbeous" (*Scully*). Total length 3·3 inches, culmen 0·48, wing 2·2, tail 1·2, tarsus 0·5; toes (without claws)—outer anterior 0·4, outer posterior 0·4, inner anterior 0·27, inner posterior 0·2.

Adult female. Wants the reddish-tipped feathers on the sinciput, this being olive, but brighter than the hinder part of the crown. In other respects resembles the male. Total length 3·6 inches, culmen 0·5, wing 2·27, tail 1·22, tarsus 0·48.

Young. Resemble the adult of their own sex, but have the top of the head and the nape less olive and more of a dusky brown; the underparts less yellow and the spots on the chest and breast more heart-shaped than rounded; the tips of the sincipital feathers in the male more orange.

Hab. Throughout the Himalayan range, and has been found as

far south as the Wynaad: occurs in Assam, Cachar, and Manipur; extends south into the Karen Hills and Tenasserim, and also into the Malayan Peninsula, having been obtained in the mountains of Perak. It also occurs in Sumatra (*Salvadori*).

a. ♂ ad. sk.	Kotagherry, Nilghiris, March.	Hume Coll.
b. ♂ ad. sk.	Wynaad, July (*J. Darling*).	Hume Coll.
c. ♀ imm. sk.	Murree.	Hume Coll.
d. ♂ imm. sk.	Agrore, Cashmere, May.	Hume Coll.
e. ♀ imm. sk.	Simla, April.	Hume Coll.
f. ♂ ad.; *g*. ♀ imm. sk.	N.W. India.	Pinwill Coll.
h, *i*. ♂ ♀ ad. sk.	Masuri, Oct.	Hume Coll.
k. ♂ imm. sk.	Kalsi, Dehra Dhoon, Feb.	Hume Coll.
l. ♀ ad. sk.	Oak Forest, Dhami, Feb.	Hume Coll.
m–*p*. ♀ ad. et imm.; *q*. ♂ imm. sk.	Nepal.	Hodgson Coll.
r. ♂ ad. sk.	Nepal (*Hodgson*).	India Museum. (Type of *Piculus rufifrons*.)
s. ♀ ad. sk.	Nepal (*Hodgson*).	India Museum. (Type of *Picumnus nipalensis*.)
t. ♀ ad. sk.	Nepal.	Gould Coll.
u. ♀ ad. sk.	Nepal Valley, June (*J. Scully*).	Hume Coll.
v–*a'*. ♂ ad.; *b'*–*k'*. ♀ ad. et imm. sk.	Sikhim, Feb.–Nov. (*L. Mandelli*).	Hume Coll.
l'. ♀ juv. sk.	Sikhim (*E. W. Brooks*).	Hume Coll.
m', *n'*. ♂ ♀ ad. sk.	Darjeeling.	Hume Coll.
o'. ♀ ad. sk.	Darjeeling.	Tweeddale Coll.
p'. ♀ ad. sk.	Jaikeach, Assam, April (*J. Cockburn*).	Hume Coll.
q'. ♂ ad.; *r'*. ♀ imm. sk.	Dibrughur, Aug., Nov. (*J. R. Cripps*).	Hume Coll.
s'. ♂ ad. sk.	Cachar, May (*J. Inglis*).	Hume Coll.
t'. ♀ ad. sk.	Manipur, March (*A. O. H.*).	Hume Coll.
u'. ♂ ad. sk.	Karen Hills, Jan. (*R. G. W. R.*).	Tweeddale Coll.
v'. ♂ juv. sk.	Thoungyeen River, March (*C. T. Bingham*).	Hume Coll.
w'. ♀ ad. sk.	Larut Hills, Perak.	L. Wray, Esq. [P.].

33. Picumnus chinensis.

Vivia innominata (*non Burt.*), *David, Nouv. Arch. du Mus.* 1871, *Bull.* vii. p. 4; *id. & Oust. Ois. Chine*, p. 54 (1877).
Vivia chinensis, *Harg. Ibis*, 1881, p. 228, pl. vii. ♂ ad.

Adult male. Resembles *P. innominatus*, but differs in having the top of the head, occiput, and nape rufous, the feathers of the forehead, however, having similar transverse black spots and dull orange-red tips; also in having the stripe which runs backward from the eye and down the side of the neck of the same rufous colour as the top of the head. The size is rather larger and the colour is duller above, and the black spots below are much larger. Total length

4·5 inches, culmen 0·5, wing 2·3, tail 1·35, tarsus 0·5; toes (without claws)—outer anterior 0·4, outer posterior 0·4, inner anterior 0·27, inner posterior 0·17.

Adult female. Resembles the adult male, but wants the orange-red tipped feathers on the forehead, the latter being unicolorous with the crown. Total length 4·07 inches, culmen 0·46, wing 2·17, tail 1·22, tarsus 0·47.

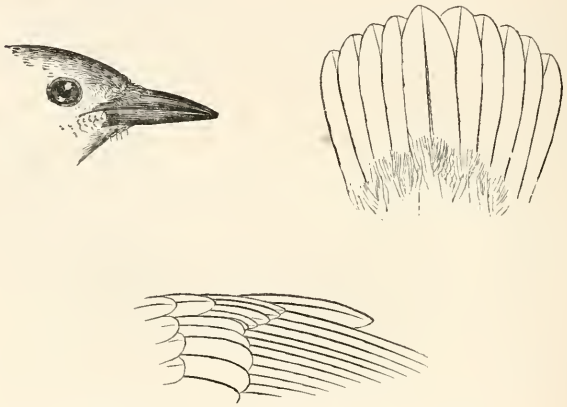
Hab. China (probably throughout the whole country, having been recorded from Fokien, Sechuan, and Kansu) and ranging to Ko-ko-nor in Eastern Thibet. The type is from May-chee.

a. ♂ ad. sk.	May-chee, China.	Shanghai Museum. (Type of species.)
b. ♂ ad. sk.	Kansu, N.W. China, Feb.	M. Berezowsky [C.].

47. NESOCTITES.

	Type.
Nesoctites	N. micromegas.

Range. Confined to Haiti and San Domingo.



Bill, tail, and part of wing of *Nesoctites micromegas.*

1. Nesoctites micromegas.

Chloronerpes passerinus, *Sallé, P. Z. S.* 1857, p. 234; *Bryant, Proc. Bost. Soc. Nat. Hist.* 1866, p. 96.

Picumnus micromegas, *Sundev. Consp. Av. Picin.* p. 95 (1866); *Bryant, Proc. Bost. Soc. Nat. Hist.* 1866, p. 96; *Gray, List Picid. Brit. Mus.* p. 28 (1868); *id. Hand-l. B.* ii. p. 180, no. 8530 (1870); *Pelz. Orn. Bras.* p. 442 (1870); *Tristr. Ibis*, 1884, p. 167; *Cory, Auk*, 1886, p. 372.

Picumnus lawrencii, *Cory, Bull. Nutt. Orn. Club*, 1881, pp. 129, 153, pl. i., ♂ ♀; *id. B. Hayti & San Dom.* p. 109, ♂ & ♀ figd. (1884); *id. List B. W. Ind.* p. 19 (1885).

Adult male. Back, rump, upper tail-coverts, scapulars, and wing-coverts uniform olive; quills brown, the outer webs of the secondaries and the margins of those of the primaries on more or less of their basal portion olive; the inner webs of the quills more or less margined with dull pale buff; shafts dark brown; tail uniform brownish olive, the shafts of the feathers brown; nasal plumes varied black and white; base of the forehead, upper half of the face, the side of the neck from behind the ear-coverts to the hind neck, and the hind neck itself, olive, with, on the sides of the latter, a number of spots and stripes of yellowish white, which form an almost continuous collar; the base of the forehead is also spotted with whitish; feathers of the top of the head chrome-yellow at the tip, dusky olive at the base, the crown with a quadrate spot of dull crimson posteriorly; lower half of the face and the side of the neck between the ear-coverts and the fore neck yellowish white, spotted with olive or dusky; the ear-coverts dusky olive, margined with yellowish white; chin, throat, and fore neck yellowish white, the underparts yellow, the whole being covered with drop-like stripes of deep olive, except the thighs, which have transverse spots or bars; under tail-coverts pale yellow, with rounded spots and crescentic markings of olive; under wing-coverts pale buff, with a few dusky spots near the base of the primaries, the edge of the wing yellowish; axillaries buffy white: "bill, legs, and feet dark slate-colour; iris reddish brown" (*Cory*). Total length 5 inches, culmen 0·72, wing 2·9, tail 1·6, tarsus 0·75; toes (without claws)—outer anterior 0·58, outer posterior 0·65, inner anterior 0·4, inner posterior 0·32.

Adult female. Differs from the adult male in wanting the crimson spot on the crown. Total length 5 inches, culmen 0·67, wing 3·03, tail 1·6, tarsus 0·73.

Hab. Confined to Haiti and San Domingo.

a, b. ♂ ♀ ad. sk.	San Domingo, Sept. (*C. B. Cory*).	Sclater Coll.
c. ♀ ad. sk.	San Domingo, April (*Toogood*).	Sclater Coll.
d, e. ♂ ad.; *f, g.* ♀ ad. sk.	Samana, San Domingo, Sept. (*C. B. Cory*).	Salvin-Godman Coll.

48. VERREAUXIA.

	Type.
Sasia, pt., *Verr. Rev. et Mag. de Zool.* p. 217 (1855).	
Verreauxia, *Hartl. Orn. W.-Afr.* p. 176 (1857)	V. africana.
Picumnus, pt., *Malh. Monogr. Picid.* ii. p. 284 (1862).	
Nannopipo, *Cab. & Heine, Mus. Hein.* Th. iv. p. 9 (1863) .	V. africana.

Range. Confined to the forests of Gaboon.

1. Verreauxia africana.

Sasia africana, *Verr. Rev. et Mag. de Zool.* 1855, p. 218; *Gray, List Picid. Brit. Mus.* 1868, p. 29; *id. Hand-l. B.* ii. p. 180, no. 8535 (1870).

Verreauxia africana, *Hartl. Orn. W.-Afr.* 1857, p. 176, no. 523; *id. J. f. O.* 1861, p. 263; *Hargitt, Ibis*, 1881, p. 229.

Picumnus verreauxii, *Malh. Picidæ*, ii. p. 284, pl. 118. fig. 1 (1862).

Nannopipo africana, *Cab. & Heine, Mus. Hein.* Th. iv. p. 9 (1863).
Picumnus africanus, *Sundev. Consp. Av. Picin.* p. 106 (1866).

Male * (*probably adult*). Above, including tail-coverts and wing-coverts, uniform dusky olive; quills dusky, the outer webs of the secondaries margined with dull yellowish olive, the inner webs of the quills margined with greyish at the base; shafts brownish black; tail and the shafts dusky black; nasal plumes dusky black; frontal band rufous; top of the head, occiput, and nape dusky olive; face slaty grey, shading into olive on the side of the neck; entire underparts, as well as the chin and throat, olivaceous slaty, some of the feathers, likewise some of those of the malar region, having rufous tips; under wing-coverts white: underside of quill-shafts white. Total length 2·6 inches, culmen 0·4, wing 1·9, tail 0·55, tarsus 0·42; toes (without claws)—outer anterior 0·3, outer posterior 0·3, inner anterior 0·22, inner posterior 0·17.

Female. Appears to differ from the male solely in having the head and the underparts nearly concolorous.

Obs. Owing to the rarity of this species it is impossible to arrive at any positive conclusion as to its plumages, but the fact that most of the known examples are in the dusky-olive plumage of the male, above described, renders it most probable that it is the adult garb. The specimen in the British Museum seems to be in a state of transition, having the face, neck, and underparts varied with rufous, which suggests a more or less rufous young.

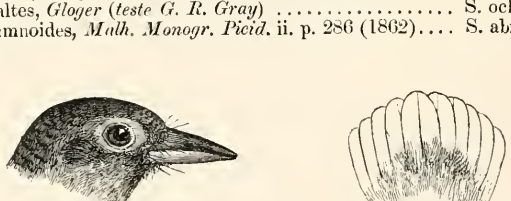
Hab. Confined (as far as is known) to Gaboon.

a. [?Ad.] sk. Gaboon. M. Verreaux.

49. SASIA.

Type.

Picumnus, pt., *Is. Geoffr. St.-Hilaire, Nouv. Arch. du Mus.* 1832, p. 397.
Sasia, *Hodgs. J. A. S. Beng.* v. p. 778 (1836) ..... S. ochracea.
Microcolaptes, *Gray, List Gen. B.* p. 54 (1840) ..... S. abnormis.
Comeris, *Hodgs. J. A. S. Beng.* x. p. 27 (1841) ..... S. ochracea.
Dryaltes, *Gloger* (*teste G. R. Gray*) ..... S. ochracea.
Picumnoides, *Malh. Monogr. Picid.* ii. p. 286 (1862).... S. abnormis.



Head and tail of *Sasia abnormis*.

* My description is taken from the specimen in the Paris Museum. It is not sexed, but is apparently an adult male.

Range. From Nepal and Sikhim into Assam, Cachar, and Manipur; through Burmah and the Malayan Peninsula, into Sumatra and Nias, Java, and Borneo.

Key to the Species.

A. Entire underparts rufous; above olive or rufescent olive; young resembling (generally) the adult.
  a'. With a white stripe running backwards from above the eye; hind neck and back tinged with rufous.
    a''. Forehead golden yellow ..... *ochracea* ♂ ad., p. 556.
    b''. Forehead rufous, without any golden tinge ..... *ochracea* ♀ ad., p. 556.
    c''. Forehead dusky olive, like the crown, but with scarcely any admixture of rufous ..... *ochracea* juv., p. 556.
  b'. Without a white stripe running backwards from the eye; hind neck and back entirely olive; the breast varied with some golden-yellow feathers.
    d''. Forehead golden yellow..... *abnormis* ♂ ad., p. 558.
    e''. Forehead entirely rufous ..... *abnormis* ♀ ad., p. 558.
B. Entire underparts, head, and neck dusky olive; above brighter olive ..... *evcretti*, sex ?, p. 559.

1. Sasia ochracea.

Sasia ochracea, *Hodgs. J. A. S. Beng.* v. p. 778 (1836); *id. icon. ined. Brit. Mus.* App. pl.35. fig. 3 (no. 659); *Blyth, J. A. S. Beng.* xii. p. 1005 (1843); *Gray, Gen. B.* ii. p. 433 (1845); *Gray, Cat. Mamm. &c. Nepal pres. Hodgs.* p. 115 (1846); *Blyth, Cat. B. Mus. As. Soc.* p. 65 (1849); *Bp. Consp. Av. Gen.* i. p. 140 (1850); *Reichenb. Scans. Picinæ*, p. 342 (1854); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 678 (1856); *Jerd. B. Ind.* i. p. 301 (1862); *Gray, Cat. Mamm. &c. Nepal pres. Hodgs.* p. 62 (1863); *Gray, List Picid. Brit. Mus.* p. 29 (1868); *id. Hand-l. B.* ii. p. 180, no. 8532 (1870); *Gould, B. As.* vi. pl. xl., ♂ ♂ ♀ (1870); *Jerd. Ibis*, 1872, p. 10; *Blyth & Wald. B. Burma*, p. 78 (1875); *Hume & Oates, Str. F.* iii. p. 75 (1875); *Godw.-Aust. J. A. S. B.* 1876, p. 70; *Hume & Davison, op. cit.* vi. p. 148 (1878); *Hume, op. cit.* viii. p. 88 (1879); *Hargitt, Ibis*, 1881, p. 231; *Oates, Str. F.* x. p. 192 (1882); *id. B. Brit. Burm.* ii. p. 26 (1883); *Hume, Str. F.* xi. p. 65 (1888).
Comeris ochracea, *Blyth, J. A. S. Beng.* xii. p. 1005 (1843).
Microcolaptes ochraceus, *Blyth, J. A. S. Beng.* xiv. p. 191 (1845); *Cab. & Heine, Mus. Hein.* iv. p. 8 (1863).
Picumnoides ochraceus, *Malh. Picidæ*, ii. p. 287 (1862).
Comeris (Sasia) ochracea, *Hodgs. in Gray's Zool. Misc.* 1844, p. 85.
Sasia lacrymosa, *Lafr. Rev. et Mag. Zool.* p. 208 (1854).
Picumnoides lacrymosa, *Malh. Picidæ*, ii. p. 287 (1862).
Picumnus ochraceus, *Sundev. Consp. Av. Picin.* p. 106, no. 27 (1866).
Sasia abnormis, *Hume & Davison (non Temm.), Stray F.* ii. p. 472 (1874); *Blyth & Wald. B. Burma*, p. 78 (1875).

Adult male. Above rufous olive; wing-coverts olive; bastard-wing and primary-coverts dusky black, the former externally edged with buff; quills dusky black, margined externally with olive, the bastard-primary edged externally with white, the inner webs of the primaries edged with greyish white, those of the secondaries having a white patch at the base, the innermost of these feathers entirely dingy rufous; shafts black; rump orange-rufous; upper tail-coverts, tail, and tail-shafts deep black; nasal plumes yellow, tipped with black; forehead golden yellow, shading into rufous on the fore part of the crown, the remainder of the crown and the nape olive; a trace of a rufous collar on the hind neck; a white stripe from above the hinder part of the eye, bordering the occiput; sides of the face and neck, and from the chin to the under tail-coverts, both inclusive, orange-rufous; under wing-coverts and axillaries nearly white: "bill dark brown on the upper mandible, plumbeous on the lower, inside of the mouth dusky; eyelids naked and very conspicuous dusky red; iris crimson; legs yellowish red; claws yellowish" (*Oates*). "Legs and feet dull orange; claws very pale brown; upper mandible and tip of lower mandible dark horny brown, rest of the lower mandible pale bluish; irides from pale red to dark crimson; orbital skin dull crimson" (*W. Davison*). Total length 3·1 inches, culmen 0·53, wing 2·12, tail 0·9, tarsus 0·5; toes (without claws)—outer anterior 0·47, inner anterior 0·3, posterior 0·45.

Adult female. Differs from the adult male in having the forehead deep rufous, devoid of golden yellow. Total length 3 inches, culmen 0·55, wing 2·12, tail 0·9, tarsus 0·55.

Young. Resemble (generally) the adult, but have the plumage very much duller in colour; the top of the head dusky olive, the forehead (at most) slightly varied with a few rufescent feathers; the under mandible darker.

Hab. Nepal; Sikhim, extending into Assam, Cachar, and Manipur; and south through the Burmese Provinces to Bahonee, near Pakchan.

a. Juv. sk.	Nepal.	Hodgson Coll. (Type of species*.)
b, c. ♂ ad.; *d, e.* ♀ ad. et juv. sk.	Nepal.	Hodgson Coll.
f, g, h. ♂ ad. sk.	Nepal (*B. H. Hodgson*).	India Museum.
i. ♀ ad. sk.	Nepal (*B. H. Hodgson*).	Gould Coll.
k, l. ♂ ad. sk.	Native Sikhim, Aug., Oct. (*L. Mandelli*).	Hume Coll.

* In my paper on "The Piculets of the Old World" (Ibis, 1881, p. 235) I have stated that the type of *Sasia ochracea* is a stuffed example. This is an error, but at this distance of time I cannot say how the mistake occurred. A careful examination of Hodgson's specimens in the Museum, compared with his unpublished plates, shows me that the type is not, and never has been, stuffed. It is letter *c* of my paper, and is a young bird. This specimen was presented by Mr. Hodgson to the Museum in the year 1843.

m–q. ♂ ad.; *r–y*. ♀ ad. et imm. sk.	Sikhim, Jan., June, Aug., Oct., Nov. (*L. Mandelli*).	Hume Coll.
z, *a'*, *b'*, *c'*. ♂ ad. et imm.; *d'*, *e'*. ♀ ad. sk.	Darjeeling.	Hume Coll.
f'. Juv. sk.	Darjeeling.	Tweeddale Coll.
g', *h'*. ♂ ad. et imm. sk.	Assam (*A. W. Chennell*).	Tweeddale Coll.
i'. ♂ ad.; *k'*. ♂ imm. sk.	Dollah, Assam, April 1877 (*J. Cockburn*).	Hume Coll.
l'. ♀ ad. sk.	Sadhya, Assam, April 1877 (*J. Cockburn*).	Hume Coll.
m'. ♂ ad. sk.	Tippook, March 18, 1877 (*J. Cockburn*).	Hume Coll.
n', *o'*. ♂ ad.; *p'*. ♂ imm. sk.	N. Khasia Hills, Jan., Feb. (*A. W. Chennell*).	Tweeddale Coll.
q'. Ad. sk.	N. Cachar.	Tweeddale Coll.
r'. ♀ ad. sk.	Cachar, June 27, 1878 (*J. Inglis*).	Hume Coll.
s'. ♂ imm. sk.	Sylhet, Nov. 27, 1874 (*J. Inglis*).	Hume Coll.
t', *u'*. ♂ ♀ ad. sk.	Manipur, Feb., May 1881 (*A. O. H.*).	Hume Coll.
v', *w'*. ♂ ♀ ad. sk.	Tipperah, Jan.	Hume Coll.
x'. ♀ ad. sk.	Tonghoo Hills, March 10, 1874 (*R. G. W. R.*).	Hume Coll.
y'. ♀ ad. sk.	Pine Forests, Salween Dist., Feb. 14, 1874 (*W. Davison*).	Hume Coll.
z'. ♂ ad. sk.	Pahpoon, Feb. 25, 1874 (*W. Davison*).	Hume Coll.
a''. ♀ ad. sk.	Meetan, Feb. 26, 1877 (*W. Davison*).	Hume Coll.
b'', *c''*. ♂ ad. sk.	Ye, March, April (*W. Davison*).	Hume Coll.
d''. ♂ ad. sk.	Tavoy, April 21, 1878 (*W. Davison*).	Hume Coll.
e''. ♀ ad. sk.	Thayetchoung, June 5, 1874 (*W. Davison*).	Hume Coll.
f''. ♂ ad. sk.	Pabyn, Mergui Dist., Nov. 15, 1874 (*W. Davison*).	Hume Coll.
g''. ♂ ad. sk.	Hankachin, Feb. 6, 1875 (*W. Davison*).	Hume Coll.

2. Sasia abnormis.

Picumnus abnormis, *Temm. Pl. Col.* vol. iv. pl. 371. fig. 3 (1825); *id. Man. d'Orn.* ii. p. 115 (1828); *Wagl. Isis*, 1829, p. 647; *Less. Traité*, i. p. 231 (1831); *Swains. Classif. B.* ii. p. 311 (1837); *Jerd. B. Ind.* i. p. 302 (1862); *Sundev. Consp. Av. Picin.* p. 106 (1866).

Microcolaptes abnormis, *Gray, List Gen. B.* 1840, p. 54; *id. List*, 1841, p. 70; *Blyth, J. A. S. B.* xiv. p. 191 (1845); *Cab. & Heine, Mus. Hein.* Th. iv. p. 8 (1863).

Sasia abnormis, *Gray, Gen. B.* ii. p. 433 (1845); *Blyth, Cat. B. Mus. As. Soc.* p. 65 (1849); *Bp. Consp. Gen. Av.* i. p. 140 (1850); *Reichenb. Scans. Picinæ*, p. 342, pl. dcxviii. fig. 4119 (1854); *Wallace, Ann. & Mag. Nat. Hist.* [2] xv. p. 96 (1855); *Horsf. & Moore, Cat. B. Mus. E.I. Co.* ii. p. 678 (1856–58); *Sclater, P. Z. S.* 1863, p. 211; *Pelz. Reis. Novara, Vög.* pp. 101, 162 (1865); *Gray, List Picid. Brit. Mus.* p. 29 (1868); *Gould, B. Asia*, vi. pl. xli., ♂ ♂ ♀ (1870); *Gray, Hand-l. B.* ii. p. 180, no. 8533; *Salvad. Ucc. Born.* p. 60 (1874); *Sharpe, P. Z. S.* 1875, p. 103; *Tweedd. Ibis*, 1877, p. 292; *Sharpe, P. Z. S.* 1879, p. 327;

id. Ibis, 1879, p. 243; *Hume, Str. F.* 1879, pp. 53, 88; *Hargitt, Ibis*, 1881, p. 235; *Vorderm. List B. Java*, no. 65 (1884); *Guillem. P. Z. S.* 1885, p. 406; *Salvad. Ann. Mus. Civ. Stor. Nat. Genov.* 1887, p. 532; *Sharpe, P. Z. S.* 1888, p. 279.

Picumnoides abnormis, *Malh. Picidæ*, ii. p. 287, pl. cxv. fig. 1 (1862).

Adult male. Above uniform olive, brighter on the rump, the tips of the feathers of the latter orange-rufous; wing-coverts olive; bastard-wing and primary-coverts blackish, olive externally; quills dusky black, externally olive, the inner webs edged upon their basal half with greyish white; the innermost of the secondaries entirely olive; shafts black; upper tail-coverts, tail, and tail-shafts deep black; forehead golden yellow with a rufous tinge; crown, occiput, nape, and hind neck olive; nasal plumes rufous; lores, sides of the face and neck, and entire underparts from the chin to the under tail-coverts (both inclusive) orange-rufous, with a few silken feathers of a bright golden yellow on the breast; under wing-coverts buffy white: "iris crimson; orbital patch dull crimson; legs chrome; bill black, the mandible greenish yellow" (*Everett*). Total length 3·3 inches, culmen 0·55, wing 2·07, tail 0·95, tarsus 0·5; toes (without claws)—outer anterior 0·37, inner anterior 0·27, posterior 0·37.

Adult female. Resembles the adult male, but has the forehead rufous, without any admixture of golden yellow: "soft parts as in the male" (*Everett*). Total length 3·2 inches, culmen 0·53, wing 2·1, tail 0·85, tarsus 0·55.

Hab. Malayan Peninsula north to Kossoum; Sumatra and the Island of Nias; Borneo (but not in Labuan).

a, b. ♂ ♀ ad. sk.	Kossoum, Malay Peninsula, June 29, 1879 (*J. Darling*).	Hume Coll.
c. ♂ ad. sk.	Salangore, July 30, 1879 (*W. Davison*).	Hume Coll.
d. ♂ ad.; *e, f.* ♀ ad. sk.	Klang, July 1879 (*W. Davison*).	Hume Coll.
g. ♂ ad. sk.	Mts. of Perak.	L. Wray, Esq. [P.].
h. ♂ ad. sk.	Malacca.	Purchased.
i. ♂ ad. sk.	Malacca.	W. Harvey, Esq. [P.].
k. ♀ ad. sk.	Malacca (*Cantor*).	India Museum.
l, m, n. ♂ ad.; *o.* ♀ ad. sk.	Malacca, July 1877 (*W. Davison*).	Hume Coll.
p. ♀ ad. sk.	Mt. Ophir, Malacca.	Wallace Coll.
q. ♀ ad. sk.	Mt. Ophir (*Wallace*).	Gould Coll.
r. ♂ ad. sk.	Mt. Ophir, Aug. (*R. G. W. R.*).	Tweeddale Coll.
s, t. ♂ ad.; *u, v.* ♀ ad. sk.	Foot of Gunnong Pulai, Johore, March 1880 (*W. Davison*).	Hume Coll.
w. ♂ ad. sk.	Sumatra.	Wallace Coll.
x, y. ♀ ad. sk.	Lampong, S.E. Sumatra (*E. C. Buxton*).	Tweeddale Coll.
z, a'. ♂ ad. et juv. sk.	Lumbidan, Borneo (*Low*).	Tweeddale Coll.

b', *c'*. ♂ ♀ ad. sk.	Lumbidan (*Low*).	R. B. Sharpe, Esq. [P.].
d'. ♀ ad. sk.	Sarawak (*Everett*).	Tweeddale Coll.
e'. ♂ ad. sk.	Banjarmassing (*J. Motley*).	Gould Coll.
f'. Ad. sk.	Borneo (*A. R. Wallace*).	Tweeddale Coll.

3. **Sasia everetti** *. (Plate XV.)

Sasia abnormis (pt.), *Sharpe, Ibis*, 1879, p. 243; *Hargitt, op. cit.* 1881, p. 235.

Probably adult (sex ?). Back, rump, scapulars, and wing-coverts olive; quills dusky black edged externally with yellowish olive, and more or less internally with whitish; shafts black; upper tail-coverts, tail, and tail-shafts deep black; head and neck and the entire under surface of the body dusky olive, the nasal plumes, anterior part of malar region, and chin pale rufous, the ear-coverts tinged with the same colour; under tail-coverts pale rufous; under wing-coverts white, the edge of the wing dusky olive; bill entirely deep black. Total length 3 inches, culmen 0·5, wing 2, tail 0·8, tarsus 0·5; toes (without claws)—outer anterior 0·42, inner anterior 0·3, posterior 0·43.

Hab. Lumbidan, Borneo.

a. [Ad.] sk.	Lumbidan, Borneo.	Hon. Hugh Low [C.]. (Type of species.)

Subfamily III. IYNGINÆ.

50. **IYNX.**

	Type.
Jynx, *Linn. Faun. Suec.* no. 97 (1746)	I. torquilla.
Torquilla, *Briss. Orn.* iv. p. 3 (1760)	I. torquilla.
Yunx, *Linn. Syst. Nat.* i. p. 172 (1766)	I. torquilla.

Range. Throughout the greater part of the Palæarctic and the Indian Regions. In Asia the southern limit is about 16° N. lat. Also into Senegal, North and North-east Africa, the Eastern Equatorial countries, and probably the Congo region as it occurs again at Landana. South to the Cape.

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* Mr. Sharpe ('Ibis,' 1879, pp. 243, 244) noted the differences between this bird and *S. abnormis*, and he gave a diagnosis of its characters, but, with commendable caution, hesitated to name the species upon this single specimen, in case it should prove to be only the young of *S. abnormis*. In the 'Ibis' for 1881, p. 237, I adopted Mr. Sharpe's views, but, with the aid of the series of specimens now in the British Museum, I no longer consider the olive-coloured bird to be the young of *S. abnormis*, but regard it as a new species, and give to it the name of *S. everetti*, which title I find upon Mr. Sharpe's original label.

Key to the Species.

A. With no rufous on the throat, breast, or under tail-coverts ..... *torquilla*, p. 562.

B. Fore neck and chest deep rufous, or with this colour also extending on to the throat or the breast; under tail-coverts rufous or rufescent buff.

a'. The middle of the throat, fore neck, and chest rufous; under tail-coverts pale rufous or rufescent buff ..... *pectoralis*, p. 565.

b'. The rufous confined to the middle of the fore neck and the chest, and forming a spot or patch; the chin and throat barred black and white like the malar region; under tail-coverts deep rufous ..... *pulchricollis*, p. 566.

c'. The entire breast, as well as the middle of the throat, fore neck, and chest rufous; under tail-coverts rufous ..... *æquatorialis*, p. 567.

1. Iynx torquilla.

Yunx torquilla, *Linn. Syst. Nat.* i. p. 172 (1766); *Gm. Syst. Nat.* i. p. 423 (1788); *Lath. Ind. Orn.* i. p. 223 (1790); *Meyer, Vög. Liv- u. Esth.* p. 66 (1815); *Meisn. & Schinz, Vög. Schweiz*, p. 43 (1815); *Less. Traité*, i. p. 231, pl. xxviii. fig. 2 (1831); *Swains. Classif. B.* ii. pp. 311, 312 (1837); *Dickson & Ross, P. Z. S.* 1839, p. 133; *McClell. t. c.* p. 165; *Schinz, Eur. Faun.* p. 264 (1840); *Benoit, Orn. Sicil.* p. 33 (1840); *Macgill. Hist. Brit. B.* iii. p. 100 (1840); *Bp. Cat. Met. Ucc. Eur.* p. 51 (1842); *Blyth, P. Z. S.* 1842, p. 94; *Strickl. t. c.* p. 168; *Yarr. Hist. Brit. B.* ii. p. 151 (1843); *Gray, Gen. B.* ii. p. 448, pl. iii. fig. 3 (1845); *Bp. Consp. Gen. Av.* i. p. 112 (1850); *Strickl. P. Z. S.* 1850, p. 219; *Bp. Consp. Volucr. Zygod.* p. 11, no. 238 (1854); *Hewits. Eggs Brit. B.* i. p. 242, pl. lxii. fig. 1 (1856); *Heugl. Syst. Uebers. Vög. N.O.-Afr.* p. 47 (1856); *Sundev. Sv. Fogl.* p. 146, pl. xxiii. fig. 7 (1856); *Jaub. & Barth.-Lapomm. Rich. Orn.* p. 334 (1859); *Swinh. Ibis*, 1860, p. 62; *Powys, t. c.* p. 235; *Irby, op. cit.* 1861, p. 229; *Swinh. t. c.* p. 338; *id. P. Z. S.* 1862, p. 319; *Malh. Picidæ*, ii. p. 289, pl. cxxi. fig. 4 (1862); *Jerd. B. Ind.* i. p. 303 (1862); *Swinh. P. Z. S.* 1863, p. 333; *Tristr. op. cit.* 1864, p. 432; *Salvad. Atti dell Soc. Ital. Sc. Nat.* 1864, p. 32; *Wright, Ibis*, 1864, p. 50; *Sperl. t. c.* p. 281; *Trah. Moygr. t. c.* p. 407; *Gigl. op. cit.* 1865, p. 58; *More, t. c.* p. 136; *Beavan, t. c.* p. 411; *Degl. & Gerbe, Orn. Eur.* i. p. 159 (1867); *Wardl.-Rams. Ibis*, 1867, p. 458; *Gray, List Picid. Brit. Mus.* p. 127 (1868); *id. Hand-l. B.* ii. p. 204, no. 8848 (1870); *Godw.-Aust. J. A. S. B.* 1870, p. 267; *Shell. Ibis*, 1871, p. 50; *R. Gray, B. West Scotl.* p. 192 (1871); *Shell. B. Egypt*, p. 161 (1872); *Brooke, Ibis*, 1873, p. 235; *Hume, Nests & Eggs Ind. B.* p. 128, no. 188 (1873); *id. Str. F.* 1873, pp. 115, 173; *Adam, t. c.* p. 373; *Wright, Ibis*, 1874, p. 232; *Ball, Str. F.* 1874, p. 392; *Stoliczka, t. c.* p. 461; *Hume & Oates, op. cit.* 1875, p. 75; *Ball, t. c.* p. 290; *Butl. t. c.* p. 459; *Irby, B. Gibr.* p. 72 (1875); *Bygr. Whart. Ibis*, 1876, p. 26; *Fairb. Str. F.* 1876, p. 255; *Saund. Bull. Soc. Zool. Fr.* 1876, p. 11; *Harv.-Br. Ann. & Mag. Nat. Hist.* 1877, xx. p. 496;

David & Oust. Ois. Chine, p. 55 (1877); *Hume, Str. F.* 1877, p. 27; *id. & Davison, op. cit.* vi. p. 149 (1878); *Davidson & Wend. op. cit.* vii. p. 78 (1878); *Ball, t. c.* p. 206; *Butl. Cat. B. Sind &c.* p. 19 (1879); *id. Cat. B. S. Bomb. Pres.* p. 25 (1880); *id. Str. F.* 1880, p. 386; *Madar. Vög. Ungarns*, 1881, p. 23; *Marsch. & Pelz. Orn. Vindob.* 1882, p. 94; *Davidson, Str. F.* 1882, x. p. 298; *Blakist. Amend. List B. Jap.* pp. 13, 47 (1884); *Tristr. Faun. & Flor. Palest.* p. 86 (1884); *Stejn. Bull. U.S. Nat. Mus.* no. 29, p. 354 (1885).

Jynx torquilla, *Lewin, B. Gt. Brit.* ii. p. 44, pl. li. (1766); *Landt, Faroe Isl.* p. 223 (1810); *Nilss. Orn. Suec.* i. p. 112 (1817); *Brehm, Vög. Deutschl.* p. 202 (1831); *Von der Mühle, Orn. Griechenl.* p. 29 (1844); *Mag. v. Wright, Finl. Fogl.* p. 277 (1859); *Linderm. Vög. Griechenl.* p. 40 (1860); *Tristr. Ibis*, 1866, p. 284; *Blyth, t. c.* p. 356; *Cav.-Tayl. op. cit.* 1867, p. 55; *Chamb. t. c.* p. 103; *Tyrw. Drake, t. c.* p. 425; *Smith, op. cit.* 1868, p. 448; *Borggr. Vogelf. Norddeutschl.* p. 66 (1869); *Elw. & Buckl. Ibis*, 1870, p. 189; *Saund. op. cit.* 1871, p. 65; *Harting, Handb. Br. B.* p. 33 (1874); *Dress. B. Eur.* v. p. 103, pl. cclxxxix. (1875); *Danf. & Harr.-Br. Ibis*, 1875, p. 298; *Dress. op. cit.* 1876, p. 320; *Danf. op. cit.* 1878, p. 6; *Bogd. B. Cauc.* p. 119 (1879); *Finsch, Reis. West-Sibir.* 1879, p. 116; *Russow, Orn. Ehst-, Liv- u. Curl. in Arch. für Naturk.* ix. p. 114 (1884); *Stejn. Proc. U.S. Nat. Mus.* 1886, p. 102.

Iynx torquilla, *Licht. Cat. Rer. Nat. Rariss. Hamb.* p. 15 (1793); *Rüpp. Syst. Uebers. Vög. N.O.-Afr.* p. 95 (1845); *Temm. & Schleg. Faun. Jap.* p. 75 (1847–49); *Licht. Nomencl. Av.* p. 78 (1854); *Sundev. Consp. Av. Picin.* p. 107 (1866)*; *Salvad. Faun. Ital., Ucc.* p. 40 (1871); *id. & Antin. B. Bogos*, p. 45 (1873); *Schleg. Vog. Nederl.* p. 41, pl. vi. fig. 3 (1878); *Seeb. Ibis*, 1880, p. 181; *Biddulph, Str. F.* 1880, p. 314; *id. Ibis*, 1881, p. 49; *Collett, Norg. Fugelf.* 1881, p. 314; *Reid, Str. F.* 1881, p. 25; *Scully, t. c.* p. 102; *Yarr. Hist. B. Birds, ed. Newt.* ii. p. 487 (1881); *Col. Swinh. Ibis*, 1882, p. 103; *Seeb. t. c.* pp. 209, 373; *Dixon, t. c.* p. 559; *Oates, Str. F.* 1882, p. 192; *B. O. U. List Brit. B.* p. 80 (1883); *Seeb. Ibis*, 1883, p. 22; *Severtz. t. c.* p. 71; *Irby, t. c.* p. 179; *Oates, B. Brit. Burm.* ii. p. 23 (1883); *Clarke, Ibis*, 1884, p. 144; *Seeb. t. c.* p. 180; *Saund. t. c.* p. 379; *Marshall, t. c.* p. 410; *Whitehead, op. cit.* 1885, p. 28; *Swinh. & Barnes, t. c.* p. 62; *More, List Ir. B.* p. 16 (1885); *Gigl. Avif. Ital.* p. 207 (1886); *Meves, Eur. Vög.* p. 25 (1886); *Styan, Ibis*, 1887, p. 229; *Tait, t. c.* p. 304; *Hartl. Orn. Ostl.-äquat. Geb. Afr.* p. 309 (1887); *Hume, Str. F.* xi. p. 65 (1888); *St. John, Ibis*, 1889, p. 159.

Picus iynx, *Pall. Zoogr. Rosso-Asiat.* i. p. 416 (1831).

Jynx punctata, *Brehm, Vög. Deutschl.* p. 203 (1831).

Jynx arborea, *Brehm, Vög. Deutschl.* p. 203 (1831).

Iunx torquilla, *Cara, Orn. Sard.* p. 90 (1842); *Cab. & Heine, Mus. Hein.* iv. p. 4 (1863); *Heugl. Orn. N.O.-Afr.* i. p. 799 (1871); *Tacz. Bull. Soc. Zool. France*, 1876, p. 238.

Yunx japonica, *Bp. Consp. Gen. Av.* i. p. 112 (1850); *Gray, List Picid. Brit. Mus.* p. 127 (1868); *id. Hand-l. B.* ii. p. 204, no. 8849 (1870); *Swinh. P. Z. S.* 1871, p. 393; *id. Ibis*, 1874, p. 162, 1875,

* Sundevall recognizes two forms of *Iynx torquilla*, which he designates as "*septentrionalis*" and "*meridionalis*."

p. 124; *Blakist. & Pryer, op. cit.* 1878, p. 229; *iid. Trans. As. Soc. Jap.* 1880, p. 209, 1882, x. p. 136.

Junx torquilla, *Reichenb. Scans. Picinæ*, p. 431, no. 1016, pl. dexix. figs. 4125–26 (1854); *Gurn., Junr., Ibis*, 1874, p. 294.

Junx japonica, *Reichenb. Scans. Picinæ*, p. 432, no. 1017 (1854).

Iunx japonica, *Cab. & Heine, Mus. Hein.* iv. p. 4 (1863).

Adult male. Back, rump, and upper tail-coverts, as well as the top of the head and sides of the hind neck, a mixture of grey and rufous finely marbled with black vermiculations; in the middle of the hind neck and of the upper half of the back a broad line of rufous striped with black; the top of the head and sides of the hind neck and of the back having transverse spots of white and more or less sagittate markings of black, the rump and upper tail-coverts similarly spotted; scapulars, innermost secondaries, and wing-coverts spotted and marbled like the back, but more rufous in colour, the two former having black central stripes; quills dusky brown, the outer webs of the primaries barred with buff, the inner webs spotted with marbled white; the outer webs of the secondaries spotted with marbled rufous buff, the inner webs having similar, but paler, spots; shafts brown; tail grey, with irregular bars of creamy white and black, and the whole finely marbled like the back, shafts brown; sides of the face and neck, also the throat and chest, buff, the anterior part of the malar region and the chin whiter, as is also a stripe above the ear-coverts, the whole being narrowly barred with black; the ear-coverts rufous-brown barred with black, and behind the malar region a narrow black stripe; remaining underparts creamy white, the upper breast, sides of the body, and thighs rufescent brown or buff, more or less marbled, the breast and sides of the body having whitish spots and black sagittate markings, the thighs narrowly barred with black; the lower breast and abdomen with a few small sagittate markings or spots of black; under tail-coverts buff, slightly marbled and irregularly barred with black; under wing-coverts and axillaries buff, barred with black. Total length 6·5 inches, culmen 0·6, wing 3·37, tail 2·6, tarsus 0·7; toes (without claws)—outer anterior 0·58, outer posterior 0·58, inner anterior 0·35, inner posterior 0·28.

Adult female. Resembles the adult male. Total length 6·5 inches, culmen 0·57, wing 3·18, tail 2·6, tarsus 0·65.

Young are very similar to the adult, but in the earliest stage the abdomen is quite devoid of spots.

Obs. The buff colour which sometimes pervades the plumage of the underparts in this species is not a sign of maturity, as it is found in the very early stages, together with specimens having those parts almost pure white.

Hab. Throughout almost the whole of Europe and Asia, and east into Japan. The northern limit appears to be about 62° N. lat., and in Asia it extends south to about 16° N. lat. In Africa it ranges along the north from Morocco east into Egypt, and south into Abyssinia and Kordofan, and on the west into Senegal.

a, *b*. ♂ ad. et juv. sk.	New Forest, Hampshire, April, Aug.	Salvin-Godman Coll.
c. Ad. sk.	Wiltshire.	Montagu Coll.
d. ♂ ad. sk.	Taplow, Berks, May 1859.	Gould Coll.
e. Ad. st.	Cookham, Berks.	Mr. Briggs [P.].
f, *g*. ♂ ad. sk.	Cookham, June.	R. B. Sharpe, Esq. [P.].
h. Ad. sk.	Windsor, June (*C. Shelley*).	Shelley Coll.
i. Ad. sk.	Near London.	Gould Coll.
k. Ad. sk.	Hampstead, Middlesex.	Salvin-Godman Coll.
l. ♀ ad. sk.	Hampstead, April 20, 1869 (*R. B. Sharpe*).	Tweeddale Coll.
m. Ad. st.	Eltham, Kent.	Theodore Fisher, Esq. [P.].
n. Juv. st.	Cambridgeshire.	Mr. J. Baker.
o, *p*. ♂ ♀ ad.; *q*–*u*. Juv. st.	Merton, Norfolk.	Lord Walsingham [P.].
v. ♂ ad. sk.	Skåne, Sweden, Aug. 30, 1873.	C. Meves.
w. ♂ juv. sk.	Stockholm, July 16, 1873.	C. Meves.
x. Ad. sk.	Belgium.	Brussels Museum.
y. Ad. sk.	France.	Tweeddale Coll.
z, *a'*. ♂ ad. sk.	Valencia, Spain, April 1872 (*H. Saunders*).	Tweeddale Coll.
b'. Ad. sk.	Rome, Jan. 1853 (*P. L. Sclater*).	Gould Coll.
c'. ♂ ad. sk.	Senegal.	Sharpe Coll.
d'. Ad. sk.	Egypt, April 15, 1875.	J. H. Gurney, Esq. [P.].
e',*f'*. ♂ ad.; *g'*. ♀ ad. sk.	Egypt, March, April (*G. E. S.*).	Shelley Coll.
h', *i'*. ♂ ad. sk.	Damietta, Egypt, March.	Shelley Coll.
k'. Ad. sk.	Athens.	Consul Merlin [P.].
l'. ♀ ad. sk.	Turkey, Sept. 2, 1871 (*T. Robson*).	R. B. Sharpe, Esq. [P.].
m'. Ad. sk.	Constantinople, April 14, 1878 (*W. Pearce*).	R. B. Sharpe, Esq. [P.].
n'. Ad. sk.	Erzeroom, Sept. 21, 1839 (*Dickson & Ross*).	Gould Coll.
o', *p'*. Ad. sk.	Fao, Persian Gulf.	W. D. Cumming, Esq. [P.].
q'. ♂ ad. sk.	Atpascha, Western Thian Shan, Aug. 8th.	Dr. Severtzoff [C.].
r'. ♀ ad. sk.	Tchimkent, Turkestan, Sept. 1st.	Dr. Severtzoff [C.].
s', *t'*. ♂ ♀ ad. sk.	Candahar, Afghanistan, April 1879 (*Sir O. St. John*).	Hume Coll.
u'. ♀ ad. sk.	Candahar, April 17, 1881.	Col. Swinhoe [P.].
v'. ♀ ad. sk.	Quetta, Baluchistan, May 10, 1881.	Col. Swinhoe [P.].
w'. ♂ ad. sk.	Jacobabad, Sindh, Dec. 17, 1871 (*A. O. H.*).	Hume Coll.
x'. ♀ ad. sk.	Sukkur, Jan. 1, 1872 (*A. O. H.*).	Hume Coll.
y', *z'*. ♂ ♀ ad. sk.	Karachi, Nov. 1877 (*E. A. Butler*).	Hume Coll.
a''. Ad. sk.	Godra, Panch Mehals.	Hume Coll.
b''. ♂ ad. sk.	Deesa, Feb. 2, 1876 (*E. A. Butler*).	Hume Coll.

c''. Ad. sk.	Sambhur, Jan. 1, 1870 (*Dr. Newman*).	Hume Coll.
d''. ♂ ad. sk.	Sambhur, Nov. 14, 1876 (*R. M. Adam*).	Hume Coll.
e''. Ad. sk.	Delhi, Nov. 1876 (*C. T. Bingham*).	Hume Coll.
f''. ♀ ad. sk.	Delhi, Feb. 17, 1881 (*W. N. Chill*).	Hume Coll.
g''. Ad. sk.	Sultanpur, Gurgaon Distr. (*W. N. Chill*).	Hume Coll.
h''. Ad. sk.	Sultanpur, May 8, 1876 (*W. N. Chill*).	Hume Coll.
i'', *k''*, *l''*. Ad. sk.	Sirsa, Punjab.	Hume Coll.
m''. Ad. sk.	Lahore.	Gould Coll.
n''. ♂ ad.; *o''*, *p''*. ♀ ad. sk.	Lahore, Jan., Dec.	Hume Coll.
q''. Ad. sk.	Peshawar, Feb. 1877.	Col. Way [P.].
r''. Ad. sk.	Cashmere.	Pinwill Coll.
s''. ♂ ad. sk.	Ramoo, Cashmere, June 12, 1871 (*W. E. Brooks*).	Hume Coll.
t''. ♀ ad. sk.	Simla.	Hume Coll.
u''. Ad. sk.	Dehra Dhoon, Feb. 8, 1871 (*G. King*).	Hume Coll.
v''–*y''*. Ad. sk.	Agra, Feb. 1869.	Hume Coll.
z''. ♂ ad. sk.	Umbala, Nov. 1866 (*R. C. Beavan*).	Tweeddale Coll.
*a*³, *b*³. Ad. sk.	Etawah, March, Sept.	Hume Coll.
*c*³. ♀ ad. sk.	Cawnpore, Sept. 5, 1868.	Hume Coll.
*d*³, *e*³, *f*³. Ad. sk.	Jhansi distr., Sept., Oct.	Hume Coll.
*g*³–*k*³. Ad. sk.	Oudh, Jan., March, Nov., Dec.	Hodgson Coll.
*l*³, *m*³. Ad. sk.	Nepal.	India Museum
*n*³, *o*³. Ad. sk.	Nepal (*B. H. Hodgson*).	Hume Coll.
*p*³. Ad. sk.	Sikhim, Jan. 1873 (*L. Mandelli*).	India Museum
*q*³. Ad. sk.	Assam (*McClelland*).	Hume Coll.
*r*³–*v*³. ♂ ad. sk.	Shillong, Oct., Dec. (*J. Cockburn*).	Hume Coll.
*w*³. ♀ ad. sk.	Dibrughur, March 14, 1880 (*J. R. Cripps*).	Tweeddale Coll.
*x*³. ♀ ad. sk.	Khasia Hills, Nov. 17, 1876 (*A. W. Chennell*).	Hume Coll.
*y*³, *z*³. Ad. sk.	Cachar (*J. Inglis*).	Hume Coll.
*a*⁴. ♀ ad. sk.	Khooshyara River, Cachar, Jan. 15, 1878 (*J. Inglis*).	Hume Coll.
*b*⁴, *c*⁴, *d*⁴. ♀ ad. sk.	Manipur, March 1881 (*A. O. H.*).	Hume Coll.
*e*⁴, *f*⁴. Ad. sk.	Saugor.	India Museum.
*g*⁴, *h*⁴. Ad. sk.	Saugor (*Hooper*).	Col. Swinhoe [P.].
*i*⁴. ♀ ad. sk.	Mhow, Nov. 2, 1881.	Tweeddale Coll.
*k*⁴, *l*⁴. ♂ ♀ ad. sk.	N.E. of Ahmednugger, Dec. (*S. B. Fairbank*).	Hume Coll.
*m*⁴. ♀ ad. sk.	Belgaum, Nov. 25, 1880 (*E. A. Butler*).	Gould Coll.
*n*⁴. Ad. sk.	Madras.	Hume Coll.
*o*⁴. ♂ ad. sk.	Assensole, Nov. 8, 1872.	Tweeddale Coll.
*p*⁴, *q*⁴. ♂ ♀ ad. sk.	Maunbhoom, March, April (*R. C. Beavan*).	

r^4, s^4. Ad. sk.	Dacca.	Hume Coll.
t^4. ♂ ad. sk.	Thayetmyo, Burmah.	Hume Coll.
u^4. ♂ ad. sk.	Karen-nee, March 20, 1874 (*R. G. W. R.*).	Tweeddale Coll.
v^4. ♂ ad.; w^4, x^4. ♀ ad. sk.	Tonghoo, Oct., Nov., & Feb. (*R. G. W. R.*).	Tweeddale Coll.
y^4, z^4. Ad. sk.	Amoy, China, Jan., Oct. (*R. Swinhoe*).	Tweeddale Coll.
a^5. Ad. sk.	Amoy, Jan. 1859 (*R. Swinhoe*).	Salvin-Godman Coll.
b^5, c^5. Ad. sk.	Amoy, March, Nov. (*R. Swinhoe*).	Gould Coll.
d^5. Ad. sk.	Tientsin.	Purchased.
e^5. Ad. sk.	Japan.	Purchased.
f^5. Ad. sk.	Japan.	Gould Coll.
g^5. Ad. sk.	Nagasaki, Japan.	Tweeddale Coll.
h^5, i^5. ♂ ad.; k^5. ♀ ad. sk.	Nagasaki, Oct.–Dec.	F. Ringer, Esq. [P.].
l^5. Skeleton.		Purchased.
m^5. Skeleton (head missing).		
n^5, o^5, p^5. Skulls.	S. Germany.	Dr. Günther.
q^5, r^5, s^5. Sterna.		J. Ingall, Esq. [P.].

2. Iynx pectoralis.

Yunx pectoralis, *Vig. P. Z. S.* 1831, p. 93; *Gray, Gen. B.* ii. p. 448, pl. cxii. (1845); *Malh. Picidæ*, ii. p. 291, pl. cxxi. fig. 1 (1862); *Gurney, Ibis*, 1862, p. 33; *Layard, B. S. Afr.* p. 240 (1867); *Sharpe, Cat. Afr. B.* p. 18 (1871); *id. ed. Layard's B. S. Afr.* p. 191 (1884).

Yunx indica, *Gould, P. Z. S.* 1849, p. 112; *id. B. Asia*, vi. pl. 38 (1850); *Malh. Picidæ*, ii. p. 292, pl. cxxi. fig. 3 (1862); *Jerd. B. Ind.* i. p. 304 (1862); *Gray, List Picid. Brit. Mus.* p. 127 (1868); *id. Hand-l. B.* ii. p. 204, no. 8851 (1870).

Junx indica, *Reichenb. Scans. Picinæ*, p. 432, no. 1018, pl. dcxix. figs. 4127–28 (1854).

Junx pectoralis, *Reichenb. Scans. Picinæ*, p. 433, no. 1019, pl. dcxix. figs. 4129–30 (1854); *Cab. & Heine, Mus. Hein.* iv. p. 6 (1863).

Iunx indica, *Cab. & Heine, Mus. Hein.* iv. p. 4 (1863).

Iynx indica, *Sundev. Consp. Av. Picin.* p. 108 (1866).

Iynx pectoralis, *Sundev. Consp. Av. Picin.* p. 109 (1866); *Gray, List Picid. Brit. Mus.* p. 128 (1868); *id. Hand-l. B.* ii. p. 204, no. 8850 (1870); *Sharpe in Oates's Matabele-Land*, App. B, p. 306 (1881); *id. ed. Layard's B. S. Afr.*, App. p. 812 (1884); *Hartl. Orn. Ostl.-äquat. Geb. Afr.* p. 309 (1887).

Jynx pectoralis, *Ayres, Ibis*, 1879, p. 300.

Adult male. Has the entire upper parts, the wings and tail, as well as their coverts, the top of the head and the hind neck very similar to *I. torquilla*, the main difference in these being that in the present species the tail is more numerously banded with black. *I. pectoralis* may at once be distinguished from *I. torquilla* by having the middle of the throat, the fore neck, and the chest uniform deep rufous, the lower half of the face and the feathers of the neck bordering the rufous being barred black and white, the chin having a few similarly marked feathers mixed with the rufous; underparts

below the chest creamy white, the sides of the body, flanks, and thighs more or less tinged with buff or rufescent buff; the entire breast is striped, the flanks and thighs are barred with black; under tail-coverts rufescent buff, with stripes and sagittate markings or narrow bars of black; under wing-coverts pale rufous. Total length 7 inches, culmen 0·75, wing 3·55, tail 2·75, tarsus 0·78; toes (without claws)—outer anterior 0·62, outer posterior 0·65, inner anterior 0·42, inner posterior 0·33.

Adult female. Resembles the adult male. Total length 7 inches, culmen 0·7, wing 3·6, tail 2·75, tarsus 0·8.

Hab. Eastern portion of Cape Colony, Transkei, Natal, and the Transvaal, then probably ranges westward, and has been found as far north as Landana* by M. Lucan. Dr. Tristram, in the Catalogue of his collection, records a specimen from Mombasa (*Gordge*)†.

a. Ad. sk.	South Africa.	Eyton Coll. (Type of species.)
b. Ad. sk.	Maclean Town, S. Africa.	Major Trevelyan [P.].
c, d. ♂ ad. sk.	Elands Post, S. Africa (*T. C. Atmore*).	Shelley Coll.
e, f. ♂ ad. sk.	Elands Post, April, May (*T. C. Atmore*).	Tweeddale Coll.
g, h. ♂ ad.; *i.* ♀ ad. sk.	Elands Post, May, June (*T. C. Atmore*).	Sharpe Coll.
k, l. Ad. st.	Natal.	Purchased.
m. ♂ ad. sk.	Pine Town, Natal, June (*T. L. Ayres*).	Shelley Coll.
n. ♂ ad. sk.	Valley of the Umlass, Natal, Aug. (*Gordge*).	Shelley Coll.

3. Iynx pulchricollis.

Iynx pulchricollis, *Hartl. Ibis*, 1884, p. 28, pl. iii.; *id. Orn. Ostl.-äquat. Geb. Afr.* 1887, pp. 308, 310.

Adult male. Resembles *I. pectoralis*, but differs in having the chin and throat white barred with brownish black, like the malar region, the rufous not ascending above the fore neck; under surface of the body whiter and more narrowly and clearly striped with black, the sides of the body, flanks, and thighs faintly washed with rufous and striped (not banded) with black; under tail-coverts rich rufous, with almost obsolete black shaft-stripes; general colour above browner; the bill is longer, more slender, and blacker: "irides pale brown; bill dusky brown, lower mandible paler; feet pale brownish dusky" (*Emin Bey*). Total length 8 inches, culmen 0·75,

* It would not surprise me to find that the present species extends up the Congo to its head-waters; and, if this be the case, it would prove a remarkable fact that in a very restricted area in the Equatorial Provinces every species of *Iynx* should be found, even including our widely-spread *I. torquilla*.

† I am not aware that Gordge ever collected at Mombasa; possibly there may be some mistake as to the locality.

wing 3·7, tail 3, tarsus 0·9; toes (without claws)—outer anterior 0·65, outer posterior 0·65, inner anterior 0·38, inner posterior 0·3.

Hab. Eastern Equatorial Africa (Babira, east of the Bar-el-Djebel).

4. Iynx æquatorialis.

Iynx æquatorialis, *Rüpp. Mus. Senckenb.* iii. p. 121 (1845); *id. Syst. Uebers. Vög. N.O.-Afr.* pp. 93, 95, pl. xxxvii. (1845); *Sundev. Consp. Av. Picin.* p. 109 (1866); *Hartl. Orn. Ostl.-äquat. Geb. Afr.* p. 310 (1887); *Salvad. Ann. Mus. Civ. Stor. Nat. Genova*, 1888, p. 212.

Yunx æquatorialis, *Gray, Gen. B.* ii. p. 448 (1845); *Heugl. Syst. Uebers. Vög. N.O.-Afr.* p. 47 (1856); *Malh. Picidæ*, ii. p. 291, pl. cxxi. fig. 2 (1862); *Gray, List Picid. Brit. Mus.* p. 127 (1868); *id. Hand-l. B.* ii. p. 204, no. 8852 (1870).

Junx æquatorialis, *Reichenb. Scans. Picinæ*, p. 433, no. 1020, pl. dcxviii. fig. 4124 (1854).

Iunx æquatorialis, *Cab. & Heine, Mus. Hein.* iv. p. 5 (1863); *Heugl. Orn. N.O.-Afr.* i. p. 801 (1871).

Adult. Resembles *I. pectoralis*, but may be distinguished by its having the entire breast, as well as the chest, fore neck, and throat, rich rufous; the under tail-coverts also rufous. "Total length 5·86 inches, bill (from gape) 0·85, wing 2·8, tail 2·9, tarsus 0·66" (*Malherbe*). The sexes are similar, and the soft parts are stated to be as follows:—"♀, irides dark chestnut; bill brown, with the mandible lighter towards the base; feet brown" (*Ragazzi*).

Hab. Southern Provinces of Abyssinia, and Shoa.

ADDENDA.

Add:— Page 21. **Colaptes mexicanus.**

n^4. ♂ ad.; o^1–q^1. ♀ ad. sk. Sierra Bolaños, Jalisco, Mexico, Feb., March (*W. B. Richardson*). Salvin-Godman Coll.

Page 24. **Colaptes campestris.**

Line 3 from bottom, *for* "Rothsay" *read* "Rothesay."

Page 87. **Chloronerpes rubiginosus.**

Line 8, *for* "campileus" *read* "canipileus."

Page 102. **Campothera smithi.**

Line 8, for "*C. striatus*" read "*D. striatus*."

Page 106. **Campothera maculosa.**

Top line, *for* "Aubin" *read* "Aubinn."

Page 112. **Chrysoptilus melanochlorus.**

Top line, *for* "Rothsay" *read* "Rothesay."

Page 124. **Chrysophlegma malaccense.**

Bottom line, for "*Mottley*" read "*Motley*."

Add:— Page 148. **Melanerpes erythrocephalus.**

k', l''. ♂ ♀ ad. sk. Tarpon Springs, Florida, April, Sept. (*W. E. D. Scott*). Salvin-Godman Coll.

Add:— Page 151. **Melanerpes formicivorus.**

i'', *k''*. ♂ ♀ ad. sk.	Real del Monte, State of Hidalgo, Mexico, Oct. (*W. B. Richardson*).	Salvin-Godman Coll.
l''. ♂ ad. sk.	Rio Frio, Ixtaccihuatl, Mexico, Sept. (*W. B. Richardson*).	Salvin-Godman Coll.

Add:— Page 153. **Melanerpes melanopogon.**

r'', *s''*. ♂ ad. sk.	Sierra Bolaños, Jalisco, Mexico, March (*W. B. Richardson*).	Salvin-Godman Coll.

Add:— Page 172. **Melanerpes carolinus.**

i''–p'. ♂ ad. et imm.; *q'*, *r'*. ♀ imm. sk.	Tarpon Springs, Florida, Jan., Feb., April, Oct. (*W. E. D. Scott*).	Salvin-Godman Coll.

Add:— Page 184. **Melanerpes uropygialis.**

u'–w'. ♂ ad.; *x'*. ♀ ad. sk.	Bolaños, Jalisco, Mexico, Feb. (*W. B. Richardson*).	Salvin-Godman Coll.

Add:— Page 192. **Sphyropicus varius.**

y^1–a^5. ♂ ad. sk.	Sierra Bolaños, Jalisco, Mexico, Feb., March (*W. B. Richardson*).	Salvin-Godman Coll
b^5. ♂ juv. sk.	Tenango del Valle, Mexico, Oct. (*W. B. Richardson*).	Salvin-Godman Coll.
c^5–f^5. ♀ ad. et ♂ ♀ imm. sk.	Real del Monte, State of Hidalgo, Mexico, Oct. (*W. B. Richardson*).	Salvin-Godman Coll.

Add:— Page 194. **Sphyropicus nuchalis.**

g'. ♂ ad. sk.	Sierra Bolaños *, Jaliseo, Mexico, Feb. (*W. B. Richardson*).	Salvin-Godman Coll.

Add:— Page 198. **Sphyropicus thyroideus.**

o'. ♂ [♀ imm.]; *p'*, *q'*. ♀ ad. et imm. sk.	Sierra Bolaños †, Jalisco, Mexico, March (*W. B. Richardson*).	Salvin-Godman Coll.

Mr. Richardson has sexed specimen *o'* as ♂. If the males ever

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* This extension of range is interesting, and corresponds with that of other species whose known distribution had been restricted until specimens were obtained by Messrs. Salvin and Godman's collectors.

† This adds considerably to the known range of the species.

assume the plumage of the female, then this may be one; but I think it much more likely that the collector, in labelling a number of skins, has made a mistake in the sign of the sex. One might expect to find the young of both sexes alike, but I have never seen a young male in any other than the black plumage with white throat-spot. In this dress the middle of the breast and the abdomen are *white*, with the slightest yellow tinge on the breast, and these parts are similar to those of the young female; therefore Mr. Richardson's ♂ cannot be a bird intermediate between the brown-plumaged male (if it exist) and the black-plumaged bird with white throat-spot, because his specimen is almost a counterpart of the adult female, having the middle of the lower breast and abdomen brilliant lemon-yellow, and the black chest-patch, although less developed, glossed with greenish blue. I should not be surprised to find that the young male does not resemble the young female; the specimens in black plumage with white throat-spot appear to be *very* young birds, they may, however, have passed through the first autumn moult. Further investigations will clear up this point.

Specimen *p'*, ♀ ad., has one or two of the feathers comprising the brown throat-spot tipped with pale scarlet.

Add:— Page 213. **Dendrocopus major.**

y'. ♂ ad. sk.	Suffolk, March.	Miss Nona Holden [P.].

Add:— Page 230. **Dendrocopus arizonæ.**

g'–i'. ♂ ad.; *k'*. ♀ ad. sk.	Sierra Bolaños, Jalisco, Mexico, Feb. (*W. B. Richardson*).	Salvin-Godman Coll.

Add:— Page 234. **Dendrocopus maynardi.**

b, *c*. ♀ ad. sk.	Tarpon Springs, Florida, July, Sept. (*W. E. D. Scott*).	Salvin-Godman Coll.

Add:— Page 236. **Dendrocopus harrisi.**

q'', *r''*. ♀ ad. sk.	Sierra Bolaños, Jalisco, Mexico, March (*W. B. Richardson*).	Salvin-Godman Coll.

Add:— Page 238. **Dendrocopus jardinii.**

u', *v'*. ♂ ad.; *w'*. ♀ ad. sk.	Rio Frio, Ixtaccihuatl, Mexico, Sept. (*W. B. Richardson*).	Salvin-Godman Coll.
x'. ♂ ad. sk.	Tenango del Valle, Mexico, Oct. (*W. B. Richardson*).	Salvin-Godman Coll.

Add:— Page 241. **Dendrocopus pubescens.**

a^3–d^3. ♂ ad.; e^3,f^3. ♀ ad. sk.	Tarpon Springs, Florida, Jan., Oct. (*W. E. D. Scott*).	Salvin-Godman Coll.

Add:— Page 244. **Dendrocopus stricklandi.**

d–*f*. ♂ ad.; *g*. ♀ ad. sk.	Rio Frio, Ixtaccihuatl, Mexico, Sept. (*W. B. Richardson*).	Salvin-Godman Coll.

Add:— Page 249. **Dendrocopus scalaris.**

i^1. ♂ ad. sk.	Papalote, Bee Co., Texas, Feb. (*F. B. Armstrong*).	Salvin-Godman Coll.
k^1. ♂ ad.; l^1, m^1. ♀ ad. sk.	Hidalgo, Texas, April 1889 (*F. B. Armstrong*).	Salvin-Godman Coll.

Add:— Page 252. **Dendrocopus borealis.**

Young male *. Differs from the adult male in having a scarlet spot on the crown instead of the red stripe on the side of the occiput; the sinciput spotted with dull buffy white; the face less pure white: the nasal plumes and the entire under surface of the body, from the chin downwards, buffy white, the dusky black markings on the flanks having a barred character; the black of the plumage less intense and devoid of any blue-green gloss.

Add:—

a–*c'*. ♂ ad. et juv.; *d'*–*g'*. ♀ ad. sk.	Tarpon Springs, Florida, Feb., April, May, Sept., Dec. (*W. E. D. Scott*).	Salvin-Godman Coll.

Page 265. **Dendrocopus brunneifrons.**

Specimens *a*, *b*. Types of the species.

Page 308. **Thripias namaquus.**

Specimens *b* and *e*. Types of *Mesopicus decipiens*, Sharpe.

Page 376. **Mesopicus xantholophus.**

Specimens *a*, *b*. Types of the species.

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* I am glad, before the completion of this volume, to have had an opportunity of seeing the young of *Dendrocopus borealis*, which appears to be rare in collections, and is but little known. Malherbe in his Monograph (i. p. 135) has described it, and distinctly states that it has no red stripe on the side of the occiput, but that it has a red spot on the vertex; notwithstanding this, he has allowed his draughtsman to represent the ♂ juv. (plate xxxi. fig. 5) with the red stripe on the side of the occiput, together with the coronal spot.

Add:— Page 407. **Brachypternus aurantius.**

v^3, w^3. ♂ ♀ ad. sk. Mount Aboo. Colonel Butler [C.].

Page 427. **Celeus reichenbachi.**

Line 21, *for* "Coleopicus" *read* "Celeopicus."

Page 441. **Crocomorphus flavus.**

Specimen *h*, *for* "Salvin-Godman Coll." *read* "Sclater Coll. (Type of *Celeus subflavus*)."

Add after specimen *i*. "Purchased."

Add:— Page 465. **Campophilus principalis.**

Pull. ♀. This specimen is only partially covered with feathers, but the distribution of the blue-black and pure white of the plumage is similar to that of the adult female; the vent is surrounded by a few buffy white feathers. "Eyes not open. Irides, on dissection, greyish yellow" (*W. E. D. Scott*).

Page 504. **Thriponax feddeni.**

Specimen *a*. Type of the species.

Add:— Page 517. **Dryotomus pileatus.**

i'. ♀ ad. sk.	Tarpon Springs, Florida, Feb. 13 (*W. E. D. Scott*).	Salvin-Godman Coll.
k'–n'. ♂ ad. et imm.; *o'*. ♀ ad. sk.	Hernando Co., Florida (*W. E. D. Scott*).	Salvin-Godman Coll.

ALPHABETICAL INDEX.

abingdoni (Campothera), 98.
abingdoni (Chysoptilus), 98.
abingoni (Campothera), 99, 100, 101.
abingoni (Picus), 100.
abingtoni (Campethera), 99, 100, 102.
abingtoni (Campothera), 99.
abingtoni (Dendrobates), 100.
abingtoni (Dendromus), 100.
abingtoni (Picus), 103.
abnormis (Microcolaptes), 557.
abnormis (Picumnoides), 558.
abnormis (Picumnus), 557.
abnormis (Sasia), 554, 555, 557, 559.
abyssinica (Campethera), 303.
abyssinicus (Dendrobates), 300, 303.
abyssinicus (Dendromus), 303.
abyssinicus (Dendropicus), 302, 303.
abyssinicus (Ipoctonus), 303.
abyssinicus (Picus) 303.
adspersus (Chloronerpes), 358.
adspersus (Eleopicus), 358.
adspersus (Mesopicus), 358.
æquatorialis (Hypoxanthus), 31.
æquatorialis (Iunx), 567.
æquatorialis (Iynx), 567.
æquatorialis (Junx), 567.
æquatorialis (Yunx), 567.
æruginosus (Chloronerpes), 81, 83.
æruginosus (Chrysopicus), 82.
æthiopica (Campethera), 93.
æthiopicus (Dendrobates), 93.
æthiopicus (Dendromus), 93.
æthiopicus (Picus), 93.
affinis (Campias), 363.
affinis (Chloronerpes), 359, 362.
affinis (Dendrobates), 337, 362.
affinis (Eleopicus), 363.
affinis (Gecinus), 46.
affinis (Mesopicus), 359.
affinis (Picus), 46, 359, 362.
africana (Nannopipo), 554.
africana (Sasia), 553.
africana (Verreauxia), 553.
africanus (Dendrobates), 375.
africanus (Dendromus), 375.
africanus (Dendropicus), 375.
africanus (Picumnus), 554.
africanus (Picus), 367, 375.
agilis (Campias), 355.
agilis (Chloronerpes), 355.
agilis (Dendrobates), 355.
agilis (Picus), 355.
agricola (Colaptes), 25.
agricola (Geopicos), 25.
agricola (Geopicus), 25.
agricola (Picus), 25.
Agripicus, 9.
alascensis (Picoides), 280.
albertuli (Venilia), 348.
albidior (Picoides), 277.
albifrenatus (Campephilus), 476.
albifrons (Centurus), 172, 180.
albifrons (Picus), 166, 172, 180.
albipes (Chloronerpes), 359.
albipes (Picus), 359.
albirostris (Campephilus), 470.
albirostris (Dryocopus), 470, 475.
albirostris (Dryotomus), 470.
albirostris (Megapicos), 470.
albirostris (Megapicus), 470.
albirostris (Phlœoceastes), 470.
albirostris (Picus), 470.
albisquamatus (Microcolaptes), 539.
albisquamatus (Picumnus), 539.
albolarvatus (Leuconerpes), 284.
albolarvatus (Melanerpes), 284.
albolarvatus (Picus), 285.
albolarvatus (Xenocraugus), 285.

albolarvatus (Xenopicus), 284, 285.
albosquamatus (Picumnus), 535, 539, 540.
algirus (Gecinus), 41.
algirus (Picus), 41.
Alophonerpes, 494.
alpinus (Dendrocopus), 519.
alpinus (Picoides), 275.
americanus (Apternus), 279.
americanus (Picoides), 278, 279, 280, 281.
americanus alascensis (Picoides), 281.
americanus dorsalis (Picoides), 278.
americanus, var. dorsalis (Picoides), 278.
americanus, var. fasciatus (Picoides), 280.
americanus (Picus), 279.
amictus (Tiga) 132.
amais (Picus), 472.
analis (Dendrocopus), 266, 267, 268.
analis (Dendrotypes), 266.
avalis (Picus), 266.
analis (Yungipicus), 266.
andamanensis (Dendrocopus), 267.
andamanensis (Dendrotypes), 267.
andamanensis (Picus), 267.
angustifrons (Melanerpes), 153.
Apternus, 274.
arator (Geocolaptes), 9.
arator (Geopicus), 9.
arator (Picus), 9.
arborea (Jynx), 561.
arctica (Tridactylia), 282.
arcticus (Apternus), 282.
arcticus (Picoides), 280, 282.
arcticus (Picus), 279, 282.
arizonæ (Dendrocopus), 228, 570.
arizonæ (Dryobates), 229.
arizonæ (Picus), 229.
arizonæ fratereulus (Dryobates), 229.
assimilis (Dendrocopus), 227.
assimilis (Picus), 227.
asterias (Picumnus), 538.
Asthenurus, 521.
Asyndesmus, 4, 137.
atratus (Dendrocopus), 263.
atratus (Dendrotypes), 263.
atratus (Picus), 263.
atriceps (Hypoxanthus), 29, 32.
atricollis (Chrysopicos), 118.
atricollis (Chrysopicus), 118.
atricollis (Chrysoptilus), 118.
atricollis (Picus), 119.
atriventris (Dendrocopus), 467.
atriventris (Dryocopus), 467, 517.
atriventris (Picus), 466.
atrothorax (Picus), 189.
auduboni (Picus), 231.
auduboni (Trichopicus), 232.
aurantiiventris (Bæopipo), 320.
aurantiiventris (Iyngipicus), 320.
aurantiiventris (Iyngopicus), 320.
aurantiiventris (Yungipicus), 264.
aurantius (Brachypternus), 404, 405, 407, 408, 572.
aurantius (Brahmapicus), 405.
aurantius (Chrysocolaptes), 455.
aurantius (Picus), 404, 455.
auratus (Colaptes), 12, 15, 16, 18, 22, 23.
auratus (Craugasus), 79.
auratus (Geopicos), 13.
auratus (Geopicus), 13.
auratus (Picus), 12, 79.
auratus, var. chrysocaulosus (Colaptes), 15.
auratus hybridus (Colaptes), 22.
auratus, var. hybridus (Colaptes), 22.
auratus mexicanus (Colaptes), 18.
auratus, var. mexicanus (Colaptes), 18.
auriceps (Liopipo), 264.
auriceps (Picus), 264.
auricularis (Chloronerpes), 83.
aurifrons (Centurus), 178, 180.
aurifrons (Melanerpes), 177, 178, 180, 181.
aurifrons (Picumnus), 544, 546, 547.
aurifrons (Picus), 164, 176, 177.
aurifrons dubius (Centurus), 172.
aurifrons hoffmanni (Centurus), 181.
aurifrons, var. hoffmanni (Centurus), 181.
aurifrons santa-cruzi (Centurus), 180.
aurifrons (Zebrapicus), 178.
aurita (Bæopipo), 326.
auritus (Iyngipicus), 309, 324, 325, 326, 328.
auritus (Picus), 326.
auritus (Tripsurus), 325.
auritus (Yungipicus), 326.
aurocristatus (Picus), 290.
aurulentus (Chloronerpes), 72, 79.
aurulentus (Chloropicos), 79.
aurulentus (Chloropicus), 79.
aurulentus (Chrysopicus), 79.
aurulentus (Picus), 72, 74, 79.
australis (Colaptes), 25.
awokera (Chloropicos), 42.
awokera (Chloropicus), 42.
awokera (Gecinus), 41.
awokera (Picus), 41.
ayresi (Colaptes), 22, 23.
ayresi (Picus), 22.
ayresii (Colaptes), 22.
ayresii (Geopicus), 22.
azaræ (Picumnus), 531.

baccha (Chrysocolaptes), 449.
badiodes (Celeopicos), 433.
badiodes (Celeus), 433.
badiodes (Picus), 433.
badiosus (Meiglyptes), 400.
badiosus (Micropternus), 400.

badiosus (Phaiopicus), 401.
badiosus (Picus), 401.
badius (Brachypternus), 402.
badius (Hemicircus), 396.
badius (Meiglyptes), 393, 396.
badius (Micropternus), 396.
badius (Picus), 396.
Bacopipo, 309.
bairdi (Campophilus), 465.
bairdi (Dryobates), 247.
bairdi (Picus), 246, 465.
bairdii (Campephilus), 465.
balia (Campothera), 96, 98.
balius (Picus), 98.
barbatus (Picus), 56.
Bengal Woodpecker, 409, 455.
bengalensis (Brachylophus), 404.
bengalensis (Brahmapicus), 405.
bengalensis (Picus), 404, 409, 455.
bennetti (Campethera), 103, 104.
bennetti (Campothera), 102, 103.
bennetti (Ipagrus), 103.
bennetti (Picus), 103.
bennettii (Campothera), 104.
bennettii (Chrysoptilus), 102.
bennettii (Dendromus), 103.
biarmicus (Dendropicus), 307.
biarmicus (Picus), 306.
bicolor (Dyctiopicus), 259.
bicolor (Picus), 148, 259.
blakei (Centurus), 168.
blakei (Melanerpes), 168.
blakii (Melanerpes), 168, 169.
blanfordi (Picus), 290.
blythii (Phaiopicos), 394.
Blythipicus, 379.
boiei (Campephilus), 466.
boiei (Dryocopus), 467.
boiei (Megapicus), 467.
boiei (Phlœoceastes), 467.
boiei (Picus), 466.
boieri (Picus), 466.
borbæ (Picumnus), 547.
borealis (Dendrocopus), 251, 571.
borealis (Dryobates), 251.
borealis (Picus), 251.
borealis (Threnopipo), 251.
Brachylophus, 33.
Brachypternopicus, 403.
Brachypternus, 6, 403.
brachyrhyncha (Campethera), 106.
brachyrhyncha (Campothera), 106.
brachyrhynchus (Campethera), 104.
brachyrhynchus (Chrysopicus), 106.
brachyrhynchus (Dendrobates), 105.
brachyrhynchus (Dendromus), 104, 106.
brachyrhynchus (Picus), 106.
brachyurus (Meiglyptes), 394, 396.
brachyurus (Micropternus), 394, 396, 401, 402.
brachyurus (Phaiopicos), 396.
brachyurus (Phaiopicus), 396.
brachyurus (Picus), 396.
Brahmapicus, 403.
brasiliensis (Chloronerpes), 72, 73, 74.
brasiliensis (Chloropicus), 72.
brasiliensis (Picus), 73.
brevirostris (Hypoxanthus), 29, 31, 32.
brevirostris (Picus), 212.
brookeanus (Hemicercus), 484.
brucei (Campethera), 101.
brucei (Chrysopicus), 100.
brucei (Dendrobates), 101.
brucei (Ipagrus), 100.
brucei (Picus), 101.
brunifrons (Dendrocopus), 264, 571.
brunneifrons (Dendrocopus), 264.
brunneifrons (Dryobates), 264.
brunneifrons (Leiopicus), 264.
brunneifrons (Picus), 264.
brunneus (Hemicercus), 388.
brunneus (Meiglyptes), 388.
brunneus (Picus), 388.
brunnifrons (Leiopicus), 264.
brunnifrons (Picus), 264.
Buff-crested Woodpecker, 470.
buffoni (Picumnus), 530, 542, 544, 545, 547.
buffonii (Chrysoptilus), 111.
burmanicus (Micropternus), 394, 395.

cabanisi (Dendrocopus), 218, 219.
cabanisi (Picus), 215, 218, 219.
caboti (Chloronerpes), 344.
caboti (Dendrobates), 344, 346.
caboti (Mesopicus), 344.
caboti (Phæonerpes), 344.
caboti (Picus), 344.
Cactoeraugus, 140.
cactorum (Cactocraugus), 163.
cactorum (Colaptes), 162.
cactorum (Dendrobates), 163.
cactorum (Gecinus), 162.
cactorum (Melanerpes), 162.
cactorum (Picus), 162.
cactorum (Trichopicus), 162.
cafer (Colaptes), 18.
cafer (Picus), 17.
cafer saturatior (Colaptes), 18.
cailliaudi (Campethera), 102.
cailliaudi (Campothera), 96, 98, 102.
cailliaudi (Chrysopicus), 102.
calliaudi (Ipagrus), 102.
cailliaudi (Picus), 102.
caillianti (Campethera), 102.
caillianti (Chrysopicos), 102.

caillianti (Dendromus), 102.
Callipicus, 337.
callonotus (Callipicus), 347.
callonotus(Chloronerpes), 347, 348.
callonotus (Dendrobates), 346, 347, 348.
callonotus (Erythronerpes), 348.
callonotus (Picus), 346, 348.
callonotus (Venilia), 347.
callonotus major (Chloronerpes), 348.
callonotus peruvianus (Chloronerpes), 348.
callopterus (Chloronerpes), 80, 81.
callopterus (Craugasus), 80.
callopterus (Picus), 80.
Calopicus, 119.
Campephilus, 460.
campestre, Carpintero, 23.
campestris (Chrysoptilus), 23.
campestris (Colaptes), 24, 25, 568.
campestris (Geopicos), 24.
campestris (Geopicus), 24.
campestris (Malherbipicus), 24.
campestris (Pediopipo), 24.
campestris (Picus), 23.
campestris (Soroplex), 24.
campestroides (Chrysoptilus), 25.
campestroides (Malherbipicus), 25.
campestroides (Geopicos), 25.
Campethera, 90.
Campias, 337.
Camponomus, 367.
Campophilus, 7, 460.
Campothera, 3, 90.
camtschatcensis (Tridactylia), 277.
canadensis (Picus), 231.
cancellata (Dictyopipo), 260.
cancellatus (Dendrocopus), 260.
cancellatus (Picus), 244, 260.
candidus (Leuconerpes), 148.
candidus (Melanerpes), 148.
candidus (Phymatoblepharus), 148.
candidus (Picus), 148.
canens (Hemicercus), 486.
canente (Hemicercus), 486, 488, 489.
canente (Hemicirens), 488.
canente (Micropicos), 486.
canente (Micropicus), 486, 488.
canente (Picus), 486.
canente, var. occidentalis (Picus), 488.
canente, var. orientalis, (Picus), 486.
canescens (Centurus), 174.
canescens (Melanerpes), 174.
canicapilla (Bacopipo), 322.
canicapillus (Iyngipicus), 322.
canicapillus (Picus), 322.
canicapillus (Yungipicus), 322, 326.
caniceps (Colaptes), 53.
caniceps (Gecinus), 54.
caniceps (Picus), 53, 372.
canifrons (Picus), 313.
canipileus (Chloronerpes), 84, 87.
canipileus (Chrysopicus), 87.
canipileus (Chrysoptilus), 84, 87.
canipileus (Colaptes), 87.
canipileus (Picus), 87.
canus (Chloropicus), 41.
canus (Colaptes), 53.
canus (Gecinus), 52, 53, 54, 55.
canus (Malacolophus), 54.
canus (Picus), 53.
canus jessoensis (Picus), 54.
canus perpallidus (Picus), 54.
capensis (Colaptes), 295.
capensis (Dendrobates), 372.
capensis (Mesopicus), 372.
capensis (Picus), 295, 371.
Cape Woodpecker, 371.
capistratus (Chloronerpes), 73, 74.
capistratus(Chloropicus), 74.
capistratus(Chrysopicus), 74.
capistratus (Craugasus), 74.
capistratus (Picus), 74.
Capnopicus, 337.
capricorni (Campethera), 104.
capricorni (Campothera), 104.
capricorni (Chrysopicus), 104.
capricorni (Dendromus), 104.
capricorni (Ipagrus), 104.
capricorni (Picus), 104.
capricornis (Ipagrus), 104.
Carbonarius, 518.
Cardinal Woodpecker, 295.
cardinalis(Chloronerpes), 347.
cardinalis (Chrysocolaptes), 296.
cardinalis (Dendrobates), 296, 298.
cardinalis (Dendropicus), 295, 296, 298, 303.
cardinalis (Ipoctonus), 296.
cardinalis (Picus), 295.
carlotta (Brachypternus), 453.
carlotta (Chrysocolaptes), 453.
carlotta (Indopicus), 453.
carlotta (Picus), 453.
caroli (Campethera), 107.
caroli (Campothera), 107.
caroli (Chloropicus), 107.
caroli (Chrysopicus), 107.
caroli (Cnipotheres), 107.
caroli (Dendrobates), 107.
caroli (Dendromus), 107

caroli (Pardipicus), 107.
caroli (Picus), 107.
caroli (Scolecotheres), 107.
Carolina Woodpecker, 166, 170.
carolinensis (Centurus), 170.
carolinensis (Picus), 170, 172.
carolinus (Centurus), 170.
carolinus, var. tricolor (Centurus), 175.
carolinus (Melanerpes), 170, 171, 569.
carolinus (Picus), 159, 164, 166, 170.
carolinus (Zebrapicus), 171.
Carpintero campestre, 23.
Carpintero chorreado, 259.
Carpintero dorado pardo, 79.
Carpintero enano, 530.
Carpintero gorro pajizo, 422.
Carpintero gorro y cuello roxos, 477.
Carpintero lomo blanco, 470.
Carpintero negro, 508.
Carpintero pardo dorado, 362.
Carpintero verde dorado, 79.
Carpintero verdinegro, 110.
Carpintero vientre roxo, 161.
cassini (Campias), 360.
cassini (Chloronerpes), 360.
cassini (Dendrobates), 360.
cassini (Mesopicus), 360.
cassini (Picus), 360.
castaneus (Celeopicus), 433.
castaneus (Celeus), 433, 435.
castaneus (Malacolophus), 428.
castaneus (Meiglyptes), 433.
castaneus (Picus), 433.
castelneau (Picumnus), 529.
castelnaudi (Picumnus), 528.
castelnaui (Picumnus), 528.
cathpharius (Dendrocopus), 222, 223, 224, 225.
cathpharius (Picus), 223.
cathpharius (Xylocopus), 223.
cathphoricus (Picus), 223.
cathphorius (Dendrocopus), 223.
cathphorius (Hypopicus), 223.
cathphorius (Picus), 223.
cayanensis (Chrysoptilus), 116.
cayanensis (Picus), 116.
cayennensis (Chrysopicos), 116.
cayennensis (Chrysopicus), 117.
cayennensis (Chrysoptilus), 116, 117.
cayennensis (Picumnus), 531, 532.
cayennensis (Picus), 116.
cayennensis (Yunx), 532.
caymanensis (Centurus), 169.
caymanensis (Melanerpes), 169.
ceciliæ (Chloronerpes), 366.
ceciliæ (Dendrobates), 366.
ceciliæ (Erythronerpes), 366.
ceciliæ (Mesopicus), 366.
ceciliæ (Picus), 366.
cecilii (Chloronerpes), 366.
cecilii (Mesopicos), 366.
cecilii (Venilia), 366.
Celeopicos, 420.
Celeus, 6, 420.
Centurus, 139.
Ceophlœus, 8, 506.
Cerchneipicus, 6, 436.
ceylonus (Brachypternus), 410, 453.
ceylonus (Picus), 410, 453.
chilensis (Colaptes), 28.
chilensis (Geopicus), 28.
chilensis (Picus), 28.
chilensis (Pituipicus), 28.
chinensis (Picumnus), 551.
chinensis (Vivia), 551.
chlorigaster (Chrysophlegma), 63.
chlorigaster (Gecinus), 60, 62.
chlorigaster (Picus), 62.
chlorio (Picus), 53.
chlorocephalus (Chloronerpes), 78.
chlorocephalus (Chloropicus), 78.
chlorocephalus (Chrysopicus), 78.
chlorocephalus (Picus), 77.
chlorolophos (Picus), 59.
chlorolophum (Chrysophlegma), 60.
chlorolophus (Chloropicos), 59.
chlorolophus (Chloropicus), 60.
chlorolophus (Chrysophlegma), 59, 62.
chlorolophus (Gecinus), 59, 60.
chlorolophus (Picus), 59.
Chloronerpes, 3, 69.
chloronotus (Picus), 105.
chlorophanes (Chrysophlegma), 62.
chlorophanes (Gecinus), 62.
chlorophanes (Venilia), 62.
chlorophaus (Gecinus), 62.
Chloropicoides, 411.
Chloropicos, 119.
chloropus (Gecinus), 59.
chloropus (Picus), 59.
chlorozostus (Chrysopicus), 111.
chlorozostus (Chrysoptilus), 111, 112.
chlorozostus (Picus), 110, 112.
chrysauchen (Melanerpes), 160.
chrysauchen (Picus), 160.
chrysocaulosus (Colaptes), 15.
chrysochlorus (Chloronerpes), 72, 73, 74.
chrysochlorus (Chloropicus), 72.
chrysochlorus (Craugasus), 72.
chrysochlorus (Picus), 72.
Chrysocolaptes, 6, 442.

chrysogenys (Picus), 179.
chrysoides (Colaptes), 16, 23.
chrysoides (Geopicus), 16.
chrysoides (Picus), 16.
chrysomelas (Chrysopicus), 115.
chrysomelas (Chrysoptilus), 112, 115.
Chrysonotus, 411.
chrysonotus (Brachypternopicus), 407.
chrysonotus (Brachypternus), 405, 407.
chrysonotus (Picus), 404, 408.
Chrysophlegma, 3, 119.
Chrysopicos, 90.
Chrysopicus, 69, 109.
chrysopterus (Picus), 295.
Chrysoptilus, 3, 109.
chrysosternus (Picus), 23.
chrysura (Campethera), 98, 101.
chrysura (Campothera), 99.
chrysura, var. lineata (Campethera), 99.
chrysurus (Campothera), 100.
chrysurus (Chrysopicus), 98.
chrysurus (Deudrobates), 98.
chrysurus (Dendromus), 98.
chrysurus (Ipagrus), 98.
chrysurus (Picus), 99.
cinereicapillus (Colaptes), 27.
cinereigula (Picus), 328.
cinnamomeus (Asthenurus), 528.
cinnamomeus (Celeopicos), 426.
cinnamomeus (Celeopicus), 426.
cinnamomeus (Celeus), 426, 427, 428.
cinnamomeus (Craugiscus), 528.
cinnamomeus (Malacolophus), 426.
cinnamomeus (Picumnus), 527.
cinnamomeus (Picus), 426.
cirratus (Picumnus), 542.
cirrhatus (Asthenurus), 531.
cirrhatus (Piculus), 531.
cirrhatus (Picumnus), 530, 531, 532.
cirrhatus (Yunx), 531.
cirris (Dendrocopus), 271.
cirris (Dendrodromas), 271.
cirris (Picus), 271.
cissa (Dendrocopus), 214.
cissa (Picus), 214.
citreopygius (Celeus), 429.
citrinus (Celeus), 440.
citrinus (Picus), 440.
Cladoscopus, 187.
Cniparchus, 460.
Cnipotheres, 90.
coccometopus (Hemicercus), 484.
Colaptes, 2, 10.
collaris (Colaptes), 18, 21.
Columbipicus, 139.
comatus (Dryocopus), 470.
comatus (Picus), 470.
Comeris, 554.
concretus (Hemicercus), 482, 484.
concretus (Micropicos), 482.
concretus (Micropicus), 482, 484.
concretus (Picus), 482, 483.
congicus (Dendrobates), 108.
cordatus (Hemicercus), 488.
cordatus (Picus), 488.
coronatus (Centurus), 161.
coronatus (Picus), 161.
coronatus (Tripsurus), 161.
corrientes (Picus), 467.
crassirostris (Piculus), 253.
Craugasus, 69.
Craugiscus, 521.
crawfurdi (Campethera), 504.
crawfurdi (Thriponax), 501, 504.
crawfurdii (Picus), 501.
Crawfurd's Woodpecker, 501.
Crimson-breasted Woodpecker, 9.
Crimson-rumped Woodpecker, 368.
crissoleucos (Apternus), 277.
crissoleucus (Apternus), 277.
crissoleucus (Picoides), 277.
crissoleucus (Picus), 277.
cristatus (Chrysoptilus), 111, 112.
Crocomorphus, 6, 439.
cruentatus (Melanerpes), 155, 156, 158.
cruentatus (Picus), 155, 226.
Cucupicus, 10.
cuvieri (Picus), 232.
cyanædus (Picus), 287.

danfordi (Dendrocopus), 256.
danfordi (Picus), 256.
darjeelensis (Dendrocopus), 222.
darjellensis (Dendrocopus), 221.
darjellensis (Hypopicus), 222.
darjellensis (Picus), 221.
darjilensis (Dendrocopus), 221.
darjilensis (Picus), 222.
decipiens (Mesopicus), 307, 571.
delattrii (Dryotomus), 510.
delesserti (Chrysocolaptes), 449.
delesserti (Indopicus), 449.
Dendrobates, 5, 337.
Dendrocopos, 201.
Dendrocoptes, 4, 286.
Dendrocopus, 4, 201.
Dendrodromas, 201.
Dendromus, 90.
Dendropicus, 5, 293.
Dendrotypes, 202.
desmursi (Chloronerpes), 303.
desmursi (Dendropicus), 303.
desmursi (Mesopicus), 303.
desmursi (Picus), 222.

desmursii (Erythronerpes), 303.
Dictyopipo, 202.
dignus (Chloronerpes), 351.
dignus (Dendrobates), 351.
dilutus (Brachypternus), 405.
dimidiatus (Chloropicus), 46.
dimidiatus (Gecinus), 46, 47.
dimidiatus (Malacolophus), 46.
dimidiatus (Picus), 43, 46.
Dinopium, 274.
diophrys (Picus), 306.
doerriesi (Iyngipicus), 314.
dominicanus (Leuconerpes), 148.
dominicanus (Melampicos), 148.
dominicanus (Melampicus), 148.
dominicanus (Picus), 148.
d'orbignyanus (Picumnus), 533.
dorsalis (Picoides), 278.
dorsalis (Picus), 278.
dorsalis (Tridactylia), 278.
Dryaltes, 554.
Dryobates, 201.
Dryocopus, 518.
Dryopicos, 518.
Dryotomus, 8, 514, 518.
dubius (Centurus), 172.
dubius leei (Centurus), 172.
dubius (Melanerpes), 172, 173, 174.
dubius (Picus), 172.
Dyctiopicus, 201.

elegans (Celeus), 426.
elegans (Centurus), 178, 184.
elegans (Colaptes), 30, 31.
elegans (Melanerpes), 184.
elegans (Picus), 30, 184, 426.
elegans (Zebrapicus), 184.
Eleopicus, 337.
ellioti (Campethera), 374.
ellioti (Mesopicus), 374.
ellioti (Picus), 374.
ellioti (Poliopicus), 374.
elliotti (Dendrocopus), 445.
elliotti (Polipicus), 374.
Épeiche de Nubie ondé et tacheté, 93.
Épeiche ou Pic Rayé de la Louisiane, 170.
Épeiche ou Pic varié de la Encénada, 259.
Épeiche ou Pic varié de la Jamaique, 166.
erythrauchen (Picus), 170.
erythrocephalus (Chrysocolaptes), 452.
erythrocephalus (Melampicos), 146.
erythrocephalus (Melampicus), 146.
erythrocephalus (Melanerpes), 145, 146, 568.
erythrocephalus (Picus), 145.
erythrogaster (Picus), 161.
Erythronerpes, 293.
erythronothos (Picus), 409.
erythronotus (Brachypternus), 408, 409, 410, 453.
erythronotus (Brahmapicus), 410.
erythronotus (Picus), 410.
erythropes (Chloronerpes), 75.
erythropes (Craugasus), 75.
erythropes (Picus), 75.
erythrophthalmus (Centurus), 179.
erythrophthalmus (Picus), 172.
erythrophthalmus (Zebrapicus), 172.
erythropis (Chloronerpes), 75.
erythropis (Picus), 75.
erythrops (Campephilus), 513.
erythrops (Ceophlœus), 512, 513.
erythrops (Chloronerpes), 75.
erythrops (Driopicus), 513.
erythrops (Dryocopus), 473, 509, 513.
erythrops (Dryopicos), 513.
erythrops (Dryopicus), 513.
erythrops (Picus), 75, 512.
erythropsis (Chloronerpes), 75.
erythropsis (Chloropicus), 75.
erythropsis (Chrysopicus), 75.
erythropygius (Chrysonotus), 413.
erythropygius (Gecinus), 66, 67, 68.
europæus (Picoides), 275.
everetti (Sasia), 559.
everetti (Tiga), 418.
exalbidus (Celeopicus), 440.
exalbidus (Celeus), 440.
exalbidus (Picus), 440, 441.
exilis (Asthenurus), 530.
exilis (Piculus), 530.
exilis (Picumnus), 530, 531, 533, 542, 544.
exilis (Picus), 542.
exilis (Yunx), 530.

feddeni (Hemilophus), 504.
feddeni (Mullcripicus), 504.
feddeni (Thriponax), 499, 501, 502, 504, 505, 572.
feliciæ (Dendrocopus), 226.
feliciæ (Picus), 226.
fernandi (Picus), 419.
fernandiæ (Colaptes), 419.
fernandinæ (Colaptes), 419.
fernandinæ (Geopicos), 419.
fernandinæ (Geopicus), 419.
fernandinæ (Nesoceleus), 419.
fernandinæ (Picus), 419.
festivus (Chrysocolaptes), 445.
festivus (Picus), 445.
fidelis (Dendrobates), 357.
fischeri (Hemilophus), 495.
flavescens (Celeopicos), 423.

flavescens (Celeopicus), 423.
flavescens (Celeus), 420, 422.
flavescens (Malacolophus), 423.
flavesceus (Picus), 422.
flavicans (Malacolophus), 440.
flavicans (Picus), 440.
flavifrons (Centurus), 161.
flavifrons (Melampicos), 161.
flavifrons (Melampicus), 161.
flavifrons (Melanerpes), 160, 161.
flavifrons (Phymatoblepharus), 161.
flavifrous (Picumnus), 545, 547.
flavifrons (Picus), 161.
flavifrons (Tripsurus), 161.
flavigula (Chloronerpes), 77.
flavigula (Craugasus), 78.
flavigula (Dryotomus), 127, 129.
flavigula (Melampicos), 154.
flavigula (Melampicus), 154.
flavigula (Melanerpes), 154.
flavigula (Picus), 77.
flavigularis (Chloronerpes), 78.
flavigularis (Melanerpes), 154.
flavigularis (Picus), 154.
flavilumbis (Chrysoptilus), 115.
flavilumbis (Picus), 115.
flavinotus (Picus), 332.
flavinucha (Chloropicos), 127.
flavinucha (Chloropicus), 128.
flavinucha (Chrysophlegma), 127, 128, 130.
flavinucha (Gecinus), 127.
flavinucha (Picus), 127.
flavirostris (Gecinus), 43.
flavirostris (Picus), 43, 199.
flaviventris (Centurus), 177, 179.
flaviventris (Picus), 194.
flavotinctus (Picumnus), 548.
flavus (Celeus), 440, 441.
flavus (Crocomorphus), 439, 440, 572.
flavus (Picus), 440.
fokiensis (Brachypternus), 402.
fokiensis (Meiglyptes), 402.
fokiensis (Micropternus), 402.
fokiensis (Picus), 402.
formicivorus (Melampicus), 151.
formicivorus (Melanerpes), 149, 151, 152, 153, 154, 155, 569.
formicivorus (Picus), 149, 151.
formicivorus angustifrons (Melanerpes), 153.
formicivorus, var. angustifrons (Melanerpes), 153.
formicivorus bairdi (Melanerpes), 151.
fraseri (Celeopicus), 432, 433.
fraseri (Celeus), 432.
frater (Lyngipicus), 326.
frondium (Colaptes), 37.
frondium (Gecinus), 38.
frondium (Picus), 212.
frontalis (Campias), 354.
frontalis (Chloronerpes), 354.
frontalis (Dendrobates), 354.
fuliginosus (Microstictus), 492.
fuliginosus (Mulleripicus), 492.
fuliginosus (Picus), 225.
fulvifasciatus (Lyngipicus), 333.
fulvigaster (Picus), 498.
fulviscapa (Campethera), 296.
fulviscapus (Dendrobates), 295.
fulviscapus (Dendropicus), 296.
fulviscapus (Picus), 295, 298.
fulvus (Alophonerpes), 490, 491.
fulvus (Campethera), 490.
fulvus (Dryopicos), 490.
fulvus (Dryopicus), 490.
fulvus (Hemilophus), 490.
fulvus (Microstictus), 489, 490, 491.
fulvus (Mulleripicus), 490.
fulvus (Picus), 490.
fumigatus (Capnopicus), 342.
fumigatus (Chloronerpes), 342.
fumigatus (Dendrobates), 342, 344, 346.
fumigatus (Mesopicos), 342.
fumigatus (Mesopicus), 342.
fumigatus (Phæonerpes), 342.
fumigatus (Picus), 342.
funebris (Alophonerpes), 493.
funebris (Campethera), 493.
funebris (Dryopicus), 493.
funebris (Hemilophus), 493.
funebris (Microstictus), 492.
funebris (Mulleripicus), 493.
funebris (Picoides), 283.
funebris (Picus), 492.
fuscescens (Dendrobates), 296.
fuscescens (Dendropicus), 296.
fuscescens (Picus), 295.
fuscipennis (Ceophlœus), 512.
fuscipennis (Dryocopus), 512.
fuscipennis (Dryopicus), 512.
fuscipennis (Picus), 512.
fusco-albidus (Lyngipicus), 326.
fusco-fulvus (Picus), 426.
fuscus (Meiglyptes), 388.
fuscus (Picumnus), 530.

gabonensis (Campethera), 304, 305.
gabonensis (Chrysopicus), 304.
gabonensis(Dendrobates), 304.

gabonensis (Dendropicus), 304, 305.
gabonensis (Ipopatis), 304.
gabonensis (Picus), 304.
gairdneri (Dendrocopus), 241.
gairdneri (Dryobates), 242.
gairdneri (Picus), 241.
gairdneri (Trichopicus), 242.
galeatus (Campephilus), 514.
galeatus (Ceophlœus), 513, 514.
galeatus (Driopicus), 514.
galeatus (Dryocopus), 513.
galeatus (Dryopicus), 514.
galeatus (Picus), 513.
Gauropicoides, 3, 132.
Geciniscus, 134.
Gecinulus, 4, 134.
Gecinus, 3, 33.
Geocolaptes, 2, 9.
Geopicos, 10.
gerini (Picus), 164.
gerini (Zebrapicus), 164.
gerinii (Centurus), 165.
Goa Woodpecker, 445.
godmani (Chloronerpes), 83.
goensis (Brachypternus), 445.
goensis (Chrysocolaptes), 445.
goensis (Indopicus), 445.
goensis (Picus), 445, 447.
goertæ (Dendropicus), 369.
goertan (Dendrobates), 369.
goertan (Dendropicus), 369.
goertan (Gecinus), 369.
goertan (Mesopicus), 367, 368, 369, 370.
goertan (Picus), 368.
goertan (Scolecotheres), 369.
Goertan ou Pic vert du Sénégal, 368.
Golden-winged Woodpecker, var. *A*, 17.
gorii (Gecinus), 43, 45.
gouldi (Dendrocopus), 219.
gouldi (Picus), 219.
gouldii (Dryobates), 216, 219.
gouldii (Picus), 219.
gracilis (Picus), 246.
gradatus (Centurus), 257.
gradatus (Picus), 257.
grammicus (Celeopicus), 435.
grammicus (Celeus), 434.
grammicus (Cerchneipicus), 434.
grammicus (Picus), 434.
grammithorax (Meiglyptes), 386.
grammithorax (Miglyptes), 324, 385, 386.
grammithorax (Phaiopicus), 386.
granadensis (Microcolaptes), 549.
granadensis (Picumnus), 346, 548, 549.
Grand Pic huppé à tête rouge de Cayenne, 467.
Grand Pic varié de l'Isle de Luçon, 295.
grandis (Iyngipicus), 325.
grandis (Yungipicus), 325.
grantia (Chloropicoides), 134.
grantia (Chrysonotus), 134.
grantia (Geciniscus), 134.
grantia (Gecinulus), 134.
grantia (Picus), 134.
grantia (Tiga), 134.
grateloupensis (Centurus), 179.
grateloupensis (Picus), 179.
grayi (Dryocopus), 476.
grayii (Campephilus), 476.
grayii (Megapicus), 476.
graysoni (Dendrocopus), 248, 250.
Green Woodpecker, 36.
Grey-headed Woodpecker, 53.
Grey-headed Green Woodpecker, 52.
griseocephalus (Dendrobates), 372.
griseocephalus (Mesopicus), 371, 372.
griseocephalus (Picus), 371.
griseus (Picus), 170.
guatemalensis (Campephilus), 473.
guatemalensis (Campophilus), 473.
guatemalensis (Dryotomus), 473.
guatemalensis (Megapicus), 473.
guatemalensis (Phlœoceastes), 473.
guatimalensis (Dryocopus), 473.
guatimalensis (Picus), 473.
guatimalensis (Scapaneus), 473.
guayaquilensis (Campophilus), 475.
guayaquilensis (Picus), 475.
guerini (Chloropicos), 55.
guerini (Chloropicus), 55.
guerini (Gecinus), 55.
guerini (Picus), 55.
guineensis (Picus), 295.
gularis (Chloronerpes), 85, 86.
gularis (Meiglyptes), 399.
gularis (Micropternus), 396, 399.
gularis (Picus), 64, 125, 126, 399.
gularis (Venilia), 125.
gundlachi (Colaptes), 15.
guttacristatus (Chrysocolaptes), 448, 453, 454.
guttacristatus (Picus), 448.
guttatus (Chrysoptilus), 117.
guttatus (Dendromus), 103.
guttatus (Picumnus), 542, 544.
guttatus (Picus), 117.
guttic ristatus (Chrysocolaptes), 449.
guttifer (Chrysopicus), 117.
guttifer (Chrysoptilus), 117.
guttifer (Picumnus), 538, 544.
guttulatus (Picus), 116.
gutturalis (Alophonerpes), 495.

gutturalis (Campethera), 495.
gutturalis (Dryopicus), 495.
gutturalis (Hemilophus), 495.
gutturalis (Picus), 494.
gymnophthalma (Bæopipo), 330.
gymnophthalmos (Iyngipicus), 331.
gymnophthalmos (Picus), 330.
gymnophthalmos (Yungipicus), 330.
gymnophthalmus (Iyngipicus), 330.
gymnophthalmus (Picus), 330.
gymnophthalmus (Yungipicus), 330, 331.

habessinicus (Picus), 303.
hæmasoma (Picus), 290.
hæmatogaster (Campephilus), 479, 480.
hæmatogaster (Campophilus), 478, 480.
hæmatogaster (Chiparchus), 479.
hæmatogaster (Dryocopus), 478.
hæmatogaster (Dryotomus), 479.
hæmatogaster (Megapicus), 479.
hæmatogaster (Picus), 478.
hæmatostigma (Chloronerpes), 361, 364.
hæmatostigma (Dendrobates), 364.
hæmatostigma (Mesopicus), 364.
hæmatostigma (Picus), 364.
hæmatribon (Brachypternus), 454.
hæmatribon (Carysocolaptes), 454
hæmatribon (Indopicus), 454.
hæmatribon (Picus), 454.
Half-billed Woodpecker, 37.
hardwickii (Dendrocopus), 328.
hardwickii (Iyngipicus), 328.
hardwickii (Picus), 328.
hardwickii (Yungipicus), 328.
hargitti (Thriponax), 505.
harmandi (Picus), 263.
harrisi (Dendrocopus), 234, 237, 570.
harrisi (Dryobates), 234.
harrisi (Picus), 234, 237.
harrisi (Trichopicus), 234.
hartlaubi (Dendrobates), 96, 296.
hartlaubi (Dendropicus), 298.
hartlaubi (Hemicercus), 482.
hartlaubi (Ipoctonus), 296, 298.
hartlaubi (Micropicus), 482.
hartlaubi (Picus), 296, 298.
hartlaubii (Campethera), 296.
hartlaubii (Dendrobates), 298.
hartlaubii (Dendropicos), 295.
hartlaubii (Dendropicus), 295.
hedenborgi (Picus), 336.
Hemicercus, 7, 482.
Hemicircus, 482.
Hemilophus, 7, 494.
hemipodius (Brachylophus), 404.
hemprichi (Dendropicus), 299.
hemprichi (Ipoctonus), 300.
hemprichii (Campethera), 300.
hemprichii (Dendrobates), 300, 336.
hemprichii (Dendromus), 300.
hemprichii (Dendropicus), 300.
hemprichii (Picus), 299.
herbarum (Piculus), 253.
herminieri (Linnæipicus), 164.
herminieri (Linneopicus), 164.
herminieri (Melampicos), 163.
herminieri (Melampicus), 164.
herminieri (Melanerpes), 163.
herminieri (Picus), 163.
hilaris (Campias), 364.
hilaris (Chloronerpes), 364.
himalaiensis (Picus), 220.
himalayanus (Dendrocopus), 220, 221.
himalayanus (Dryobates), 220.
himalayanus (Picus), 220.
himalayensis (Dendrocopus), 220.
himalayensis (Picus), 220.
hirsuta (Tridactylia), 275.
hirsutus (Apternus), 279, 281.
hirsutus (Picoides), 279.
hirsutus (Picus), 275, 279.
hirundinaceus (Centurus), 156.
hirundinaceus (Melampicos), 156.
hirundinaceus (Melampicus), 156.
hirundinaceus (Melanerpes), 156.
hirundinaceus (Phymatoblepharus), 156.
hirundinaceus (Picus), 155, 156, 157.
hirundinaceus (Tripsurus), 156.
hodgei (Campethera), 502.
hodgei (Hemilophus), 502.
hodgei (Mulleripicus), 502.
hodgei (Picus), 502.
hodgei Thriponax), 502.
hodgii (Thriponax), 502.
hodgsoni (Dryopicus), 503.
hodgsoni (Hemilophus), 503.
hodgsoni (Mulleripicus), 503.
hodgsoni (Thriponax), 503, 504.
hodgsonii (Campethera), 503.
hodgsonii (Dryopicos), 503.
hodgsonii (Picus), 503.

hoffmanni (Centurus), 181.
hoffmanni (Melanerpes), 181.
hoffmanni (Picus), 181.
holroydi (Micropternus), 403.
holroydi (Picus), 403.
homorus (Dryobates), 242.
homorus (Picus), 242.
horsfieldii (Picus), 494, 498.
hortorum (Piculus), 253.
hortorum (Picus), 253.
humeralis (Picus), 445.
humii (Chrysophlegma), 125, 126.
hybridus, 23.
hybridus (Colaptes), 22.
hybridus, aurato-mexicanus (Picus), 22.
Hylatomus, 514.
hyloscopus (Dryobates), 234.
hyperythrus (Dendrocopus), 199.
hyperythrus (Hypopicus), 43, 199, 201.
hyperythrus (Picus), 199, 201.
hyperythrus (Xylurgus), 199.
hyperythrus, var. (Picus), 201.
hyperythrus, var. poliopsis (Picus), 201.
Hypopicus, 4, 198.
hypopolius (Centurus), 182, 186.
hypopolius (Melanerpes), 186.
hypopolius (Picus), 186.
hypopolius (Zebrapicus), 186.
hyposcopus (Picus), 234.
Hypoxanthus, 3, 29.
hypoxanthus (Colaptes), 30.
hypoxanthus (Picumnus), 542.

icterocephalus (Chloronerpes), 77.
icterocephalus (Picus), 75, 77.
icteromelas (Chrysopicus), 114.
icteromelas (Chrysoptilus), 114, 115.
icteromelas (Picus), 114.
igniceps (Brachypternus), 405, 407.
iheringi (Picumnus), 541.
imberbis (Campothera), 96.
imberbis (Picus), 96.
immaculatus (Celeus), 426.
immaculatus (Dendrobates), 368.
immaculatus (Dendrocopos), 256.
immaculatus (Dendropicus), 369.
immaculatus (Dryobates), 256.
immaculatus (Mesopicus), 369.
immaculatus (Scolecotheres), 369.
imperialis (Campephilus), 465.
imperialis (Campophilus), 460, 465.
imperialis (Dryocopus), 466.
imperialis (Dryotomus), 466.
imperialis (Megapicos), 466.
imperialis (Megapicus), 466.
imperialis (Picus), 465.
incognitus (Picus), 264.
indica (Iunx), 565.
indica (Iynx), 565.
indica (Junx), 565.
indica (Yunx), 565.
Indopicus, 442.
infuscatus (Miglyptes), 390.
innominata (Vivia), 550, 551.
innominatus (Picumnus), 549, 551.
innominatus (Pipiscus), 550.
insularis (Dendrocopus), 272, 273, 274.
insularis (Dendrodromas), 272.
insularis (Picus), 234, 272.
intermedia (Chloropicoides), 413.
intermedia (Tiga), 412, 416.
intermedius (Brachypternus), 408.
intermedius (Chrysonotus), 413.
intermedius (Tiga), 412.
Ipagrus, 90.
Ipocrantor, 7, 480.
Ipoctonus, 293.
Ipopatis, 293.
Ipophilus, 309.
ischnorhynchos (Phymatoblepharus), 156.
ischnorhynchos (Picus), 156.
isidori (Chloropicos) 76.
isidori (Chrysopicus), 76.
Iyngipicus, 5, 309.
Iynx, 8, 559.
iynx (Picus), 561.

jamaicensis (Picus), 166.
japonica (Iunx), 562.
japonica (Junx), 562.
japonica (Yunx), 561.
japonicus (Dendrocopus), 216.
japonicus (Picus), 216.
jardinei (Dryobates), 237.
jardinii (Dendrocopus), 237, 570.
jardinii (Leuconotopicus), 237.
jardinii (Phrenopicus), 237.
jardinii (Picus), 237.
javanensis (Chrysonotus), 413.
javanensis (Picus), 412, 413.
javanensis (Tiga), 412, 413, 417, 418.
javensis (Campethera), 499.
javensis (Dryocopus), 498.
javensis (Hemilophus), 498, 501.
javensis (Mulleripicus), 498.
javensis (Picus), 494, 498.
javensis (Thriponax), 498, 500, 501, 502, 505.
jelskii (Picumnus), 535.
jerdoni (Phaiopicos), 399.
jerdoni (Phaiopicus), 399.
jerdoni (Picus), 504.
jerdoni (Thriponax), 504.

jheringi (Picumnus), 541.
johnstoni (Mesopicus), 375.
jubatus (Picus), 480.
jugularis (Hemicircus), 391.
jugularis (Meiglyptes), 391.
jugularis (Miglyptes), 391.
jugularis (Phaiopicus), 391.
jumana (Celeopicus), 428, 429.
jumana (Celeus), 428, 429.
jumana (Picus), 428.
Jynx, 559.

kaleensis (Iyngipicus), 314, 315.
kaleensis (Picus), 315.
kaleensis (Yungipicus), 315.
kalinowskii (Thriponax), 505.
kamtschatkensis (Picus), 253, 255.
kamtschatkensis (Trichopicus), 255.
kamtschatkensis (Xylocopus), 255.
karelini (Chloropicus), 38.
karelini (Gecinus), 38.
karelini (Picus), 38.
kaupii (Centurus), 182.
kaupii (Dyctiopicus), 257.
kaupii (Picus), 257.
kaupii (Zebrapicus), 182.
khan (Picus), 226.
kingii (Picus), 257.
kirki (Dendrobates), 365, 366.
kirki (Erythronerpes), 365.
kirkii (Chloronerpes), 365.
kirkii (Chloropicus), 365.
kirkii (Chrysoptilus), 365.
kirkii (Mesopicos), 365.
kirkii (Mesopicus), 365.
kirkii (Picus), 365.
kirkii (Venilia), 365.
kirtlandi (Campias), 349.
kirtlandi (Dendrobates), 349.
kirtlandi (Mesopicus), 349.
kirtlandi (Picus), 349.
kirtlandii (Chloronerpes), 349.
kisuki (Bæopipo), 318.
kisuki (Picus), 318, 319.
kisuki (Yungipicus), 318.
kizuki (Iyngipicus), 318, 319.
kizuki (Picus), 318, 319.
kizuki nigrescens (Iyngipicus), 319.
kogera (Picus), 318.

labarum (Tiga), 132.
lacrymosa (Picumnoides), 555.
lacrymosa (Sasia), 555.
lafresnayei (Picumnus), 545.
lafresnayi (Campethera), 301.
lafresnayi (Dendrobates), 301.
lafresnayi (Dendrocopus), 301.
lafresnayi (Dendropicos), 301.
lafresnayi (Dendropicus), 301, 302.
lafresnayi (Ipoctonus), 301.
lafresnayi (Picumnus), 545.
lafresnayi (Picus), 301.
Lampropicus, 69.
Large Pied Woodpecker, 218.
Larger Red-crested Woodpecker, 515.
Largest White-billed Woodpecker, 463.
larvatus (Picus), 166.
lathami (Picus), 17.
lawrencii (Picumnus), 552.
lecontei (Picoides), 240.
lecontei (Picus), 239.
lecontii (Tridactylia), 240.
ledouci (Picus), 253.
leei (Centurus), 172.
leei (Melanerpes), 172.
Leiopicus, 289.
lepidotus (Picumnus), 539.
lepidus (Dendropicus), 302.
lepidus (Ipoctonus), 302.
lepidus (Picus), 302.
Lepocestes, 6, 379.
leptorhynchus (Picus), 215.
leptorhynchus, var. leucoptera (Picus), 215.
Lesser Black Woodpecker, var. A, 155, 157.
Lesser Black Woodpecker, var. B, 155.
Lesser Spotted Woodpecker, 253.
lessonii (Picus), 473.
leucofrenatus (Colaptes), 112.
leucogaster (Dryocopus), 498.
leucogaster (Dryopicos), 498.
leucogaster (Dryopicus), 498, 501.
leucogaster (Hemilophus), 498.
leucogaster (Picumnus), 529.
leucogaster (Picus), 498, 501.
? leucogaster (Picus), 503.
leucolæmus (Chloronerpes), 76.
leucolæmus (Chloropicus), 76.
leucolæmus (Chrysopicus), 76.
leucolæmus (Craugasus), 76.
leucolæmus (Picus), 76.
leucomelanus (Picus), 230.
leucomelas (Dryobates), 231.
leucomelas (Picus), 231.
Leuconerpes, 139.
leuconothus (Picus), 269.
Leuconotopicus, 201.
leuconotos (Picus), 269.
leuconotus (Dendrocopus), 268, 269, 271, 272, 274.
leuconotus (Dendromas), 269.
leuconotus (Picus), 268, 271, 272, 273.
leuconotus (Pipripicus), 269.

leucophrenatus (Picus), 112.
leucopogon (Campophilus), 466.
leucopogon (Picus), 466.
leucopterus (Dendrocopus), 215.
leucopterus (Picus), 215.
leucorhamphus (Campephilus), 510.
leucorhamphus (Picus), 510.
leucorum (Picus), 212.
leucotis (Picus), 251.
leucurus (Dryobates), 242.
leucurus (Picus), 242.
leucurus (Trichopicus), 242.
lichtensteini (Hemilophus), 493.
lichtensteini (Lichtensteinipicus), 493.
lichtensteini (Picus), 492.
lichtensteinii (Picumnus), 542.
Lichtensteinipicus, 489.
lignaria (Dictyopipo), 257.
lignarius (Colaptes), 257.
lignarius (Dendrobates), 259.
lignarius (Dendrocopus), 257, 260.
lignarius (Dyctiopicus), 257.
lignarius (Picus), 257.
lilfordi (Dendrocopus), 272.
lilfordi (Picus), 272.
lineatus (Campephilus), 508.
lineatus (Ceophlœus), 508, 511, 512, 513.
lineatus (Dryocopus), 508, 512.
lineatus (Dryopicus), 508.
lineatus (Dryotomus), 508.
lineatus (Megapicos), 508.
lineatus (Megapicus), 508.
lineatus (Picus), 508, 513.
lineatus, var. leucopterylus (Campephilus), 508.
lineatus, var. occidentalis (Picus), 509.
Linnæipicus, 139.
Liopicus, 5, 289.
Liopipo, 289.
Little Brown Woodpecker, 330.
longirostris (Colaptes), 26.
longirostris (Picoides), 276.
loricatus (Celeus), 432.
loricatus (Meiglyptes), 432.
loricatus (Picus), 432.
lucasana (Dictyopipo), 250.
lucasanus (Dendrocopus), 250.
lucasanus (Picus), 250.
luciani (Dendrocopus), 219.
luciani (Picus), 218, 219.
lucidus (Chrysocolaptes), 455, 456, 457.
lucidus (Picus), 455.
leucotos (Picus), 268.
lugubris (Celeopicus), 424.
lugubris (Celeus), 424.
lugubris (Dendropicus), 305.
lugubris (Picus), 424.
lunatus (Picus), 216.
luridus (Picus), 388.
luteus cyanopus persicus (Picus), 36.

macei (Dendrocopus), 261, 266.
macei (Dendrotypes), 261.
macei (Picus), 260, 266.
macei (Yungipicus), 261.
macii (Dendrocopus), 260, 263.
macii (Picus), 261.
mackloti (Hemilophus), 494.
mackloti (Picus), 494.
macrocephalus (Chloronerpes), 72.
macrocephalus (Picus), 72.
Macropicus, 494.
maculatus (Chloronerpes), 259.
maculatus (Dendrobates), 260.
maculatus (Iyngipicus), 332.
maculatus (Picus), 259, 332.
maculatus (Yungipicus), 332.
maculiceps (Chrysocolaptes), 456, 457.
maculifrons (Campias), 359.
maculifrons (Chloronerpes), 359.
maculifrons (Dendrobates), 359.
maculifrons (Picus), 359.
maculipennis (Chloronerpes), 79.
maculipennis (Chrysopicus), 79.
maculipennis (Picus), 79.
maculosa (Campethera), 105, 106.
maculosa (Campothera), 104, 105, 568.
maculosus (Campothera), 105.
maculosus (Chrysopicus), 105.
maculosus (Picus), 104.
magellanicus (Campephilus), 480.
magellanicus (Dryocopus), 481.
magellanicus (Ipocrantor), 480, 481.
megallanicus (Megapicus), 481.
magellanicus (Picus), 480.
mahrattensis (Leiopicus), 290.
mahrattensis (Liopicus), 289, 290.
mahrattensis (Liopipo), 290.
mahrattensis (Picus), 290.
major (Dendrocopus), 137, 211, 212, 214, 215, 216, 218, 219, 220, 570.
major (Dryobates), 212.
major kamtschaticus (Picus), 214.
major (Picus), 211, 214, 216, 218, 225.
major, var.? (Picus), 226.
major japonicus (Picus), 216.

major pœlzami (Picus), 214.
majoroides (Dendrocopus), 221, 222, 225.
majoroides (Picus), 221.
Malaccan Woodpecker, 122.
malaccense (Chrysophlegma), 122, 123, 568.
malaccensis (Callolophus), 122.
malaccensis (Chrysophlegma), 122.
malaccensis (Gecinus), 122.
malaccensis (Picus), 122.
malaccensis (Venilia), 122.
malherbei (Campethera), 96.
malherbei (Campias), 350.
malherbei (Chrysopicus), 96.
malherbei (Picus), 472.
malherbei (Scapaneus), 472.
malherbii (Campephilus), 472.
malherbii (Campophilus), 472.
malherbii (Campothera), 96.
malherbii (Chloronerpes), 350.
malherbii (Dryotomus), 472.
malherbii (Megapicos), 472.
malherbii (Megapicus), 472.
Malherbipicus, 10.
mandarinus (Dendrocopus), 219.
mandarinus (Picus), 218, 219.
manderinus, var. (Picus), 219.
Manilla Green Woodpecker, 371.
manillensis (Picus), 372.
marattensis (Dendrocopus), 290.
marginatus (Meiglyptes), 388.
mariæ (Chrysoptilus), 115.
martinæ (Picus), 230.
martinæ (Trichopicus), 231.
martini (Picus), 230.
martius (Carbonarius), 519.
martius (Dendrocopus), 519.
martius (Driopicus), 519.
martius (Dryocopus), 519.
martius (Dryopicos), 519.
martius (Dryopicus), 519.
martius (Dryotomus), 519.
martius (Picus), 518, 520.
mauritanus (Dendrocopus), 216, 217.
mauritanus (Picus), 216.
maximus malayensis (Picus), 498.
maynardi (Dendrocopus), 233, 570.
medianus (Dendrocopus), 239.
medianus (Picus), 239.
medianus (Trichopicus), 240.
medius (Dendrocopos), 287.
medius (Dendrocoptes), 286, 287, 288.
medius (Dendrocopus), 287.
medius (Dryobates), 287.
medius (Pipripicus), 287.
medius (Picus), 286, 288.
medius, var. sancti-johannis (Picus), 288.
Megapicos, 460.
Meiglyptes, 384.
Melampicos, 139.
melampogon (Picus), 151.
melanauchen (Dendropicus), 303.
Melanerpes, 4, 139.
melanocephalus (Melampicus), 158.
melanocephalus (Melanerpes), 158.
melanocephalus (Picus), 257.
melanochloris (Picus), 110.
melanochloros (Chrysoptilus), 111.
melanochloros (Picus), 110.
melanochlorus (Chrysopicos), 111.
melanochlorus (Chrysopicus), 111.
melanochlorus (Chrysoptilus), 110, 112, 114, 568.
melanochlorus (Picus), 110.
melanochrysos (Malacolophus), 404.
melanogaster (Picus), 382.
melanogaster (Venilia), 382.
melanogastra (Venilia), 382.
melanolæmus (Picus), 112.
melanolæmus (Chrysoptilus), 112.
melanolaimus (Chrysopicus), 112.
melanolaimus (Chrysoptilus), 112.
melanoleucos (Picus), 470.
melanoleucus (Campephilus), 470.
melanoleucus (Campophilus), 470, 472, 473, 476.
melanoleucus (Picus), 470.
melanoleucus (Scapaneus), 470.
melanopogon (Melampicos), 151.
melanopogon (Melanerpes), 151, 153, 154, 569.
melanopogon (Picus), 151, 154.
melanopterus (Picus), 148.
melanotis (Picus), 513.
melanotus (Chrysocolaptes), 445.
menisca (Bæopipo), 312.
meniscus (Iyngipicus), 312.
meniscus (Picus), 312.
menstruus (Chrysocolaptes), 372.
menstruus (Dendrobates), 372.
menstruus (Dendropicus), 372.
menstruus (Mesopicus), 372.
menstruus (Picus), 371.
menstruus (Scolecotheres), 372.
mentale (Chrysophlegma), 125, 126.

mentalis (Brachylophus), 125.
mentalis (Callolophus), 126.
mentalis (Celeus), 432.
mentalis (Chloropicus), 125, 126.
mentalis (Chrysophlegma), 126.
mentalis (Gecinus), 125, 126.
mentalis (Picus), 62, 125, 126.
mentalis (Venilia), 125, 126.
meriani (Dendromus), 114.
meridionalis (Dendrocopus), 239.
meridionalis (Picus), 239, 242, 287.
meridionalis (Trichopicus), 240.
Meropicus, 139.
meropirostris (Melampicus), 156.
meropirostris (Melanerpes), 156.
meropirostris (Picus), 156.
meropirostris (Tripsurus), 156.
mesoleucus (Campephilus), 476.
mesoleucus (Dryocopus), 476.
Mesopicos, 367.
Mesopicus, 5, 367.
mesorhynchus (Ceophlœus), 508.
mesorhynchus (Dryocopus), 509.
mexicana (Ardea), 36.
mexicanoides (Colaptes), 21.
mexicanoides (Geopicos), 21.
mexicanus (Colaptes), 16, 17, 19, 21, 22, 23, 568.
mexicanus (Geopicus), 18.
mexicanus (Picus), 18.
mexicanus rufipileus (Colaptes), 18.
mexicanus saturatior (Colaptes), 18.
Microcolaptes, 521, 554.
micromegas (Nesoctites), 552.
micromegas (Picumnus), 552.
Micropicos, 482.
Micropternus, 6, 392.
micropus (Brachypternus), 407.
Microstictus, 7, 489.
Miglyptes, 6, 384.
miniata (Chrysophlegma), 122.
miniata (Venilia), 121, 122.
miniatum (Chrysophlegma), 121, 122, 123.
miniatus (Brachylophus), 121, 122.
miniatus (Chloropicos), 121, 122.
miniatus (Chloropicus), 121, 122.
miniatus (Chrysonotus), 122.
miniatus (Gecinus), 121, 122.
miniatus (Picus), 121, 122, 123.
miniatus (Venilia), 121, 122.
minimus (Picumnus), 543.
minimus (Picus), 532.
minor (Dendrocopus), 252, 253, 254, 256, 257.
minor (Dryobates), 254.
minor (Piculus), 253.
minor (Picus), 252, 255, 256, 266, 325, 330, 332.
minor (Pipripicus), 253.
minor (Xylocopus), 253.
minor kamtschatkensis (Picus), 255.
minor pipra (Picus), 254.
minor, var. pipra (Picus), 254.
minor, var. quadrifasciatus (Picus), 256.
minuta (Campethera), 299.
minuta (Pipra), 542.
minuta (Yunx), 531.
minutissima (Iynx), 532.
minutissima (Yunx), 531, 532.
minutissimus (Picumnus), 531, 532, 544.
minutissimus (Picus), 532.
minutus (Asthenurus), 299, 542.
minutus (Dendrobates), 299.
minutus (Dendropicos), 299.
minutus (Dendropicus), 299.
minutus (Ipoctonus), 299.
minutus (Piculus), 532.
minutus (Picumnus), 521, 531, 542, 543, 544, 545.
minutus (Picus), 299, 530, 532.
mitchelli (Bæopipo), 316.
mitchelli (Picus), 316.
mitchelli (Yungipicus), 316.
mixta (Dictyopipo), 259.
mixtus (Dendrocopus), 259, 260.
mixtus (Picus), 259.
modestus (Lichtensteinipicus), 493.
modestus (Picus), 493.
moluccensis (Dendrocopus), 316.
moluccensis (Picus), 266, 316, 325, 328, 330, 332.
moluccensis (Yungipicus), 325.
mombassica (Campothera), 100.
mombassicus (Campothera), 100.
montanus (Picoides), 275.
montanus (Picus), 137, 212.
mülleri (Hemilophus), 494.
Mulleripicus, 494.
multicolor (Celeopicos), 437.
multicolor (Celeopicus), 437.
multicolor (Celeus), 437.
multicolor (Cerchneipicus), 437.
multicolor (Picus), 437.
multifasciatus (Celeopicus), 431.
multifasciatus (Celeus), 431.
multifasciatus (Cerchneipicus), 431.
multifasciatus (Picus), 431.
murinus (Campias), 351.

murinus (Chloronerpes), 351.
murinus (Dendrobates), 351.
murinus (Dendropicus), 336.
murinus (Elcopicus), 351.
murinus (Ipophilus), 336.
murinus (Mesopicus), 351.
murinus (Picus), 336, 351.
mursii (Cyanopicus), 303.
mystacale (Chrysophlegma), 131.
mystacalis (Chrysophlegma), 131.
mystaceus (Dendropicus), 307.
mystaceus (Picus), 306.

namaqua (Campethera), 307.
namaquus (Dendrobates), 306.
namaquus (Dendropicus), 307.
namaquus (Mesopicus), 307.
namaquus (Picus), 306.
namaquus (Thripias), 306, 307, 309, 571.
namiyei (Dendrocopus), 273.
namiyei (Dryobates), 273.
nana (Bæopipo), 327.
Nannopipo, 553.
nanus (Iyngipicus), 327.
nanus (Picus), 327, 330. 331, 332.
nanus (Yungipicus), 327, 328.
nataliæ (Centurus), 196.
nataliæ (Picus), 196.
nattereri (Picus), 114.
nebulosus (Picumnus), 536.
neglectus (Picus), 410.
nepalensis (Picus), 59, 316.
nepalensis (Vivia), 550.
nesiotis (Dendrotypes), 315.
Nesoceleus, 6, 419.
Nesocites, 8, 552.
niger (Dendrocopus), 519.
niger (Picus), 194, 519.
nigrescens (Iyngipicus), 319.
nigrescens (Yungipicus), 319.
nigriceps (Chloronerpes), 350.
nigriceps (Colaptes), 350.
nigriceps (Dendrobates), 350, 351.
nigriceps (Elcopicus), 350.
nigriceps (Mesopicus), 350.
nigriceps (Picus), 350.
nigrigenis (Gecinus), 67.
nigriguttatus (Dendrodromus), 304.
nigriguttatus (Dendropicus), 304.
nigriguttatus (Pardipicus), 304.
nigriguttatus (Scolecotheres), 304.
nigrogenis (Picus), 67.
nigrogularis (Dendrobates), 104.
nipalensis (Gecinus), 59.
nipalensis (Piculus), 550, 551.
nipalensis (Vivia), 550.
nivosa (Campethera), 108.
nivosa (Campothera), 108.
nivosus (Chloropicus), 108.
nivosus (Chrysopicus), 108.
nivosus (Dendrobates), 108.
nivosus (Dendromus), 108.
nivosus (Pardipicus), 108.
nivosus (Scolecotheres), 108.
noguchii (Blythipicus), 378.
noguchii (Picus), 378.
noguchii (Sapheopipo), 378.
norvegicus (Picus), 53.
notata (Campethera), 95.
notata (Campothera), 95.
notatus (Chrysopicus), 95.
notatus (Dendrobates), 95.
notatus (Dendromus), 95.
notatus (Ipagrus), 95.
notatus (Picus), 93, 95.
Nubian Woodpecker, 93.
nubica (Campethera), 93, 95.
nubica (Campothera), 93, 102.
nubicus (Chrysopicus), 93.
nubicus (Dendrobates), 93.
nubicus (Ipagrus), 93.
nubicus (Picus), 93, 95, 96, 102.
nubicus (Stictopicus), 93.
nuchalis (Cladoscopus), 192.
nuchalis (Picus), 404.
nuchalis (Sphyrapicus), 192.
nuchalis (Sphyropicus), 192, 193, 195, 569.
numidicus (Dendrocopus), 217.
numidicus (Leuconotopicus), 217.
numidicus (Picus), 212, 216, 217.
numidus (Picus), 217.
nuttalli (Dendrocopus), 244.
nuttalli (Dictyopipo), 245.
nuttalli (Dryobates), 245.
nuttalli (Picus), 244.
nyeanus (Centurus), 169.
nyeanus (Melanerpes), 168, 169.

obscurus (Picus), 146, 372.
obsoletus (Dendrobates), 336.
obsoletus (Dendromus), 336.
obsoletus (Dendropicus), 336.
obsoletus (Ipophilus), 336.
obsoletus (Iyngipicus), 310, 336.
obsoletus (Picus), 336.
occidentalis (Cerchneipicus), 439.
occipitalis (Brachylophus), 56.
occipitalis (Chloropicos), 56.
occipitalis (Chloropicus), 56.
occipitalis (Gecinus), 55, 56.

occipitalis (Malacolophus), 56.
occipitalis (Picus), 56, 156.
ocellatus (Picumnus), 537.
ochracea (Comeris), 555.
ochracea (Sasia), 555, 556.
ochraceus (Celeopicus), 425.
ochraceus (Celeus), 425.
ochraceus (Malacolophus), 425.
ochraceus (Microcolaptes), 555.
ochraceus (Picumnoides), 555.
ochraceus (Picumnus), 555.
ochraceus (Picus), 425.
odoardus (Dryotomus), 473.
oleagineus (Capnopicus), 345.
oleagineus (Chloronerpes), 344, 345.
oleagineus (Dendrobates), 344, 346.
oleagineus (Mesopicus), 345.
oleagineus (Phæonerpes), 345.
oleagineus (Picus), 344.
olivaceus (Colaptes), 9.
olivaceus (Dendrobates), 105.
olivaceus (Dendropicus), 105.
olivaceus (Geocolaptes), 9.
olivaceus (Microcolaptes), 548.
olivaceus (Picumnus), 346, 548, 549.
olivaceus (Picus), 9, 104.
olivinus (Campias), 356.
olivinus (Chloronerpes), 356.
olivinus (Dendrobates), 351, 356.
olivinus (Eleopicus), 356.
olivinus (Mesopicus), 356.
olivinus (Phæonerpes), 356.
olivinus (Picus), 356.
Orange Woodpecker, 404.
orbignyanus (Microcolaptes), 533.
orbiguyanus (Picumnus), 533.
orizabæ (Picus), 246.
ornatus (Centurus), 178.
ornatus (Picus), 178.

palalaca (Chrysocolaptes), 456.
palalaca (Picus), 455.
Palalaca ou Pic vert tacheté des Philippines, 455.
pardinus (Picus), 108.
pardinus (Stictocraugus), 108.
Pardipicus, 293.
parvus (Dryobates), 248.
parvus (Picus), 246, 248.
passerinus (Campias), 353.
passerinus (Chloronerpes), 352, 552.
passerinus (Dendrobates), 352, 363.
passerinus (Eleopicus), 352.
passerinus (Mesopicus), 352.
passerinus (Picus), 352, 359, 362, 364.
pecilci (Dendropicus), 375.
pectoralis (Picus), 266.
pectoralis (Iynx), 565, 566, 567.
pectoralis (Junx), 565.
pectoralis (Jynx), 565.
pectoralis (Meiglyptes), 388.
pectoralis (Phaiopicos), 388.
pectoralis (Phaiopicus), 388.
pectoralis (Thriponax), 500.
pectoralis (Yunx), 565.
peninsularis (Iyngipicus), 331.
peralaimus (Picus), 447.
percoccineus (Dryocopus), 478.
percussus (Chloronerpes), 377.
percussus (Chloropicos), 377.
percussus (Chloropicus), 377.
percussus (Dendrobates), 377.
percussus (Picus), 377.
percussus (Xiphidiopicus), 376, 377.
permista (Campethera), 106.
permista (Campothera), 106.
permistus (Campothera), 106.
pernii (Picus), 225.
peruyi (Dendrocopus), 225.
peruyi (Picus), 225.
persicus (Picus), 37.
perspicillatus (Chrysopicus), 81.
peruvianus (Chrysoptilus), 118.
peruvianus (Dendrobates), 348.
Petit Épeiche, 332.
Petit Épeiche brun des Moluques, 325.
Petit Pic d'Antigue, 332.
Petit Pic à baguettes d'or, 295.
Petit Pic de Cayenne, 539.
Petit Pic à gorge jaune, 77.
Petit Pic des Moluques, 325.
Petit Pic noir, 155.
Petit Pic noir de Cayenne, 155.
Petit Pic rayé de Cayenne, 116.
Petit Pic rayé de Saint Domingue, 89.
Petit Pic du Sénégal, 352.
Petit Pic de S. Domingue, 352.
Petit Pic varié de Virginie, 239.
phæoceps (Micropternus), 392, 393, 394, 397.
Phæonerpes, 337.
phaioceps (Meiglyptes), 394.
phaioceps (Micropternus), 393, 399.
Phaiopicos, 392.
philippinarum (Brachypternus), 455.
philippinarum (Chrysocolaptes), 455.
philippinarum (Indopicus), 456.
philippinarum (Picus), 454, 455.
philipsi (Trichopicus), 231.

phillipsi (Picus), 231.
Phlœoecastes, 460.
Phlœotomus, 514.
pholidotus (Picus), 432.
Phrenopicus, 201.
Phymatoblepharus, 139.
Pic du Cap de Bonne Espérance, 404.
Pic Cardinal de l'Isle de Luçon, 295.
Pic à cravate noire, 437.
Pic à cravate noire de Cayenne, 437.
Pie à double moustache, 306.
Pic à gorge jaune de Cayenne, 77.
Pic grivelé ou Grand Pic de l'isle de Luçon, 455.
Pic jaune de Cayenne, 440.
Pic jaune tacheté de Cayenne, 426.
Pic jaune de Perse, 36.
Pie Laboureur, 9.
Pic de Malacca, 122.
Pic mâle de la Encénada, 259.
Pic à moustaches noires, 306.
Pic noir à domino rouge, 146.
Pic noir huppé de Cayenne, 508.
Pic noir huppé de Virginie, 515.
Pic olive, 372.
Pic rayé de Cayenne, 116.
Pic rayé de Saint Domingue, 89.
Pic roux à bec jaune, 199.
Pic roux de Cayenne, 430.
Pic tacheté de Nubie, 93.
Pic à tête grise du Cap de Bonne Espérance, 371.
Pic à teste rouge de Virginie, 145.
Pic tigré, 95.
Pic varié, 286.
Pic varié femelle de la Jamaique, 166.
Pic varié de la Caroline, 188.
Pic varié de Cayenne, 279.
Pic à ventre ensanglanté, 159.
Pic verd, 36.
Pic verd de Bengal, 404.
Pic verd de Goa, 445.
Pic verd de l'Isle de Luçon, 371.
Pic verd du Mexique, 36.
Pic verd de Norwége, 52.
Pic verd des Philippines, 455.
Pic de Virginie, 146.
picatus (Iyngipicus), 324, 388.
Picoides, 4, 274.
Piculus, 201, 521.
Picumnus, 8, 521, 553, 554.
Picumnus, sp. inc., 533.
Picus, 8, 322, 518.
Pied Woodpecker, Picus?, 201.
pierrei (Chrysophlegma), 130.
pierrii (Chrysophlegma), 130.
pileatus (Campephilus), 515.
pileatus (Ceophlœus), 516.
pileatus (Driopicus), 515.
pileatus (Dryocopus), 515.
pileatus (Dryopicus), 515.
pileatus (Dryotomus), 515, 517, 572.
pileatus (Hylatomus), 515.
pileatus (Hylotomus), 516.
pileatus (Phlœotomus), 516.
pileatus (Picus), 515.
Pilumnus, 187.
pinetorum (Colaptes), 37.
pinctorum (Dendrocopus), 519.
pinetorum (Gecinus), 38.
pinetorum (Picus), 212.
Pipiscus, 521.
Pipodes, 274.
pipra (Dendrocopus), 214, 254, 255.
pipra (Picus), 212, 254, 255.
Pipripicus, 201.
pitiguus (Colaptes), 28.
pitiu (Picus), 28.
pitius (Colaptes), 28.
pitius (Picus), 28.
Pituipicus, 10.
pityopicus (Picus), 212.
Plinthopicus, 379.
pœlzami (Dendrocopus), 214.
pœlzami (Picus), 214.
poicephalus (Dendrobates), 368.
poicephalus (Mesopicus), 369.
poicilolophus (Picus), 384, 385.
poicilophus (Meiglyptes), 385.
poiocephalus (Dendrobates), 370.
poliocephalus (Dendrobates), 369.
poliocephalus (Dendropicus), 369.
poliocephalus (Picus), 369.
poliocephalus (Scoleco-theres), 369.
poliopsis (Hypopicus), 200, 201.
poliopsis (Picus), 201.
Polipicus, 367.
pollens (Campephilus), 476.
pollens (Campophilus), 476.
pollens (Dryocopus), 472, 476.
pollens (Dryotomus), 476.
pollens (Picus), 476.
pollens (Scapaneus), 476.
polonicus (Picus), 269.
polygrammus (Centurus), 180.
polygrammus (Picus), 180.
polyzonos (Picus), 73, 74.
polyzonus (Chloronerpes), 73, 74.
polyzonus (Chloropicus), 73.
polyzonus (Chrysopicus), 73.
polyzonus (Craugasus), 73.
polyzonus (Picus), 73, 74.
porphyromelas (Blythipicus), 382.
porphyromelas (Celeopicus), 382.
porphyromelas (Lepocestes), 382.
porphyromelas (Picus), 382.
porphyromelas (Venilia), 380.
portoricensis (Melampicus), 159.
portoricensis (Melanerpes), 159.

portoricensis (Picus), 159.
principalis (Campephilus), 464, 465.
principalis (Campophilus), 463, 465, 466, 572.
principalis (Dendrocopus), 464.
principalis (Dryocopus), 464.
principalis (Megapicos), 464.
principalis (Megapicus), 464.
principalis (Picus), 463, 465.
principalis bairdi (Campephilus), 465.
psarodes (Picus), 404.
pubescens (Dendrocopus), 238, 239, 242, 571.
pubescens (Dryobates), 240.
pubescens (Picus), 239.
pubescens (Trichopicus), 239.
pubescens fumidus (Dryobates), 242.
pubescens gairdneri (Dryobates), 242.
pubescens gairdneri (Picus), 242.
pubescens, var. gairdneri (Picus), 242.
pubescens orœcus (Dryobates), 242.
pucherani (Centurus), 164.
pucherani (Melanerpes), 164, 165.
pucherani (Zebrapicus), 164.
pulcher (Melanerpes), 160.
pulcher (Picus), 160.
pulchricollis (Iynx), 566.
pulverulentus (Alophonerpes), 495.
pulverulentus (Hemilophus), 494.
pulverulentus (Mulleripicus), 494.
pulverulentus (Picus), 494.
pumilus (Iyngipicus), 321.
pumilus (Picus), 321.
puna (Colaptes), 27.
punctata (Campethera) 97, 307.
punctata (Campothera), 96, 97.
punctata (Jynx), 561.
punctatus (Dendromus), 96, 306.
punctatus (Ipagrus), 97.
punctatus (Picus), 96, 306, 493.
puncticeps (Picus), 257.
punctico1li (Brahmapicus), 408.
puncticollis (Brachypternopicus), 407.
puncticollis (Brachypternus), 407, 408.
puncticollis (Picus), 408.
punctifrons (Picumnus), 544.
punctigula (Chrysoptilus), 116, 117, 118.
punctigula (Picus), 116.
punctigularis (Chrysoptilus), 116, 117.
punctipectus (Chrysoptilus), 118.
punctipectus (Picus), 118.
punctulatus (Picus), 96.
punctuligera (Campethera), 97.
punctuligerus (Chrysopicus), 97.
punctuligerus (Dendrobates), 97.
punctuligerus (Dendromus), 97.
punctuligerus (Picus), 96, 98, 102.
punicea (Venilia), 64.
puniceum (Chrysophlegma), 65.
puniceus (Brachylophus), 64.
puniceus (Callolophus), 64.
puniceus (Chloropicus), 64.
puniceus (Chrysophlegma), 64.
puniceus (Gecinus), 64.
puniceus (Picus), 64.
puniceus (Venilia), 64.
purus (Dendrocopus), 214.
purus (Dryobates), 214.
pusillus (Piculus), 253.
pygmæus (Bæopipo), 316.
pygmæus (Iyngipicus), 315, 316.
pygmæus (Melanerpes), 177.
pygmæus (Piculus), 537.
pygmæus (Picumnus), 537, 538.
pygmæus (Picus), 312, 315, 537.
pygmæus (Yungipicus), 316.
pyriceps (Dendrocopus), 261.
Pyroupicus, 201.
pyrrhogaster (Camponomus), 373.
pyrrhogaster (Chloropicus), 373.
pyrrhogaster (Dendrobates), 373.
pyrrhogaster (Dendropicus), 373.
pyrrhogaster (Mesopicus), 367, 373.
pyrrhogaster (Picus), 373.
pyrrhogaster (Scolecotheres), 373.
Pyrrhopicus, 379.
pyrrhothorax (Dendrocopus), 224.
pyrrhothorax (Picus), 224.
pyrrhotis (Blythipicus), 380.
pyrrhotis (Campephilus), 380.
pyrrhotis (Celeopicos), 380.
pyrrhotis (Celeopicus), 380.
pyrrhotis (Chloronerpes), 380.
pyrrhotis (Gecinus), 380.
pyrrhotis (Lepocestes), 379, 380.
pyrrhotis (Meiglyptes), 380.
pyrrhotis (Picus), 380.
pyrrhotis (Venilia), 380.

quadrifasciatus (Dendrocopus), 256.
quercuum (Picus), 287.
querulus (Picus), 251.

radiolatus (Centurus), 166.
radiolatus (Melanerpes), 166.
radiolatus (Picus), 166.
radiolatus (Zebrapicus), 166.
rafflesi (Gauropicoides), 132.
rafflesii (Chloropicoides), 132.

rafflesii (Chrysonotus), 132.
rafflesii (Gauropicoides), 132.
rafflesii (Picus), 132.
rafflesii (Tiga), 132.
ramsayi (Iyngipicus), 334.
Rayed Woodpecker, 89.
Red-bellied Woodpecker, 170.
Red-cheeked Woodpecker, 431.
Red-headed Woodpecker, 145.
regius (Campephilus), 473.
regius (Driopicus), 473.
regius (Dryocopus), 473.
reichenbachi (Celeus), 427, 572.
reichenbachi (Chloronerpes), 346.
reichenbachi (Phæonerpes), 346.
reichenbachii (Celeopicus), 427.
reichenbachii (Celeus), 427.
reichenbachii (Picus), 427.
Reinwardtipicus, 442.
rhodeogaster (Mesopicus), 371.
richardsi (Dryocopus), 506.
richardsi (Mulleripicus), 506.
richardsi (Thriponax), 506.
rivolii (Colaptes), 30, 31.
rivolii (Geopicos), 30.
rivolii (Geopicus), 30, 31.
rivolii (Hypoxanthus), 29, 30, 31, 32.
rivolii (Picus), 30.
rivolii brevirostris (Hypoxanthus), 31.
robustus (Campephilus), 477.
robustus (Campophilus), 477.
robustus (Dryocopus), 478.
robustus (Megapicus), 478.
robustus (Phlœoceastes), 478.
robustus (Picus), 477.
roseiventris (Picus), 287.
ruber (Cladoscopus), 194.
ruber (Melanerpes), 194.
ruber (Picus), 194.
ruber (Plumnus), 194.
ruber (Sphyrapicus), 194.
ruber (Sphyropicus), 194.
rubescens (Picus), 348.
rubidicollis (Melanerpes), 159.
rubidicollis (Picus), 159.
rubidus (Picus), 346.
rubiginosa (Venilia), 382.
rubiginosus (Blythipicus), 382.
rubiginosus (Campephilus), 382.
rubiginosus (Celeopicos), 382.
rubiginosus (Chloronerpes), 81, 83, 84, 86, 568.
rubiginosus (Chrysopicus), 84, 87.
rubiginosus (Dendrobates), 382.
rubiginosus (Gecinus), 382.
rubiginosus (Hemicercus), 382.
rubiginosus (Hemicircus), 382.
rubiginosus (Lepocestes), 382.
rubiginosus (Picus), 86, 382.
rubiginosus (Scolecotheres), 382.
rubricapillus (Picus), 231.
rubricatus (Colaptes), 18, 21.
rubricatus (Geopicus), 21.
rubricatus (Picus), 17, 21, 312.
rubricatus (Yungipicus), 312.
rubricollis (Campephilus), 468, 469.
rubricollis (Campophilus), 467.
rubricollis (Dryocopus), 468.
rubricollis (Megapicus), 468.
rubricollis (Phlœoceastes), 468.
rubricollis (Picus), 467.
rubrifrons (Centurus), 158.
rubrifrons (Melampicus), 158.
rubrifrons (Melanerpes), 157, 158.
rubrifrons (Phymatoblepharus), 158.
rubrifrons (Picus), 157.
rubrifrons (Tripsurus), 158.
rubrigularis (Melanerpes), 196.
rubriventris (Centurus), 175, 176.
rubriventris (Melanerpes), 176, 177.
rubriventris (Picus), 161.
rubriventris (Zebrapicus), 176.
rubriventris pygmæus (Centurus), 177.
rubropygialis (Brachypternopicus), 412, 414, 416.
rubropygialis (Chloropicoides), 413.
rubropygialis (Chrysonotus), 413.
rubropygialis (Tiga), 412.
rufa (Tiga), 413.
ruficeps (Campias), 361, 364.
ruficeps (Chloronerpes), 358, 361, 364.
ruficeps (Dendrobates), 361, 364.
ruficeps (Picus), 361.
ruficollis (Picumnus), 530.
rufifrons (Piculus), 550, 551.
rufinotus (Meiglyptes), 394.
rufinotus (Micropternus), 394.
rufinotus (Phaiopicus), 394.
rufinotus (Picus), 394, 395.
rufipileus (Colaptes), 18.
rufiventer (Craugiscus), 527.
rufiventer (Picumnus), 527.
rufiventris (Asthenurus), 527.
rufiventris (Picumnus), 527.
rufiventris (Picus), 161.
rufopunctatus (Chrysocolaptes), 457.

rufoviridis (Chloronerpes), 105.
rufoviridis (Chloropicos), 105.
rufoviridis (Dendromus), 105.
rufus (Celeopicus), 430.
rufus (Celeus), 430, 431.
rufus (Meiglyptes), 430.
rufus (Picus), 393, 430.
rupicola (Colaptes), 26, 27.
rupicola (Geopicus), 26.
rupicola (Picus), 26, 27.
rüppellii (Picus), 377.

sagittatus (Picumnus), 534.
sancti-johannis (Dendrocoptes), 288.
sancti-johannis (Picus), 288.
sanguineus (Chloronerpes), 348.
sanguineus (Dendrobates), 348.
sanguineus (Erythronerpes), 348.
sanguineus (Mesopicos), 348.
sanguineus (Mesopicus), 348.
sanguineus (Picus), 348.
sanguineus (Venilia), 348.
sanguinolentus (Chloronerpes), 346.
sanguinolentus (Dendrobates), 346.
sanguinolentus (Mesopicus), 346.
sanguinolentus (Phæonerpes), 346.
sanguinolentus (Picus), 346.
santa-cruzi (Centurus), 172, 178, 179.
santa-cruzi (Melanerpes), 179, 180.
santa-cruzi (Zebrapicus), 180.
Sapheopipo, 6, 378.
Sasia, 8, 553, 554.
saucius (Tripsurus), 156.
saundersi (Gecinus), 38.
scalaris (Dendrocopus), 245, 246, 247, 248, 571.
scalaris (Dictyopipo), 246.
scalaris (Dryobates), 246.
scalaris (Dyetiopicus), 246.
scalaris (Picus), 245, 246, 248, 250.
scalaris bairdi (Dryobates), 247.
scalaris, var. d'orizaba (Picus), 246.
scalaris graysoni (Dryobates), 250.
scalaris, var. graysoni (Picus), 250.
scalaris lucasanus (Dryobates), 250.
scalaris lucasanus(Picus), 250.
scalaris, var. lucasanus (Picus), 250.
scalaris nuttalli (Picus), 245.
scalaris, var. nuttalli (Picus), 245.
scalaris parvus (Dryobates), 246.
scalaris sinaloensis (Dryobates), 247.
Scapaneus, 460.
scapularis(Campephilus), 510.
scapularis (Ceophlœus), 508, 510, 511.
scapularis (Driopicus), 510.
scapularis (Dryocopus), 508, 510.
scapularis (Dryopicus), 510.
scapularis (Hylotomus), 511.
scapularis (Picus), 510.
schoanus (Picus), 309.
schoensis (Campethera), 308.
schoensis (Dendrobates), 307, 308.
schoensis (Dendropicos), 308.
schoensis (Dendropicus), 308.
schoensis (Mesopicus), 307, 309.
schoensis (Picus), 309.
schoensis (Thripias), 308.
schulzi (Campephilus), 517.
schulzi (Dryotomus), 517.
schulzi (Phlœotomus), 514, 517.
sciudeanus (Dendrocoptes), 227.
scindeanus (Dendrocopus), 227.
scindeanus (Picus), 227.
scindianus (Picus), 227.
scintilla (Yungipicus) 316.
scintilliceps (Bæopipo), 313.
scintilliceps (Iyngipicus), 313, 314, 315.
scintilliceps (Picus), 313, 314.
scintilliceps(Yungipicus), 313.
sclateri (Campephilus), 475.
sclateri (Dryocopus), 475.
sclateri (Megapicus), 475, 476.
sclateri (Picumnus), 534.
sclateri (Picus), 475.
sclateri (Scapaneus), 475.
Scolecotheres, 367.
scotochlorus (Picus), 136.
scutatus (Picus), 437.
sedulus (Campias), 360.
sedulus (Chloronerpes), 360.
sedulus (Picus), 360.
seebohmi (Iyngipicus), 319.
seebohmi (Yungipicus), 319.
selysii (Campias), 363.
selysii (Chloronerpes), 363.
selysii (Mesopicus), 363.
selysii (Picus), 363.
semicinnamomeus (Celeopicus), 441.
semicinnamomeus (Celeus), 440, 441.
semicinnamomeus (Crocomorphus), 441.
semicoronata (Bæopipo), 312.
semicoronatus (Iyngipicus), 312.
semicoronatus (Picus), 312.
semicoronatus (Yungipicus), 312.
semirostris (Picus), 37.

semitorquatus (Picus), 513.
senegalensis (Dendrobates), 352.
senegalensis (Picus), 352.
septentrionalis (Picoides), 276.
septentrionalis (Picus), 231.
sericeocollis (Dryotomus), 59, 61.
sericollis (Brachylophus), 59.
sharpii (Dendropicus), 302.
sharpii (Gecinus), 40, 41.
shorei (Chrysonotus), 417.
shorii (Brachypternus), 417.
shorii (Chloropicoides), 417.
shorii (Picus), 417.
shorii (Tiga), 417.
similis (Picus), 510.
simplex (Chloronerpes), 81.
sinaloensis (Dryobates), 247.
sindianus (Picus), 227.
Smallest Spotted Woodpecker, 238.
smithii (Campethera), 101.
smithii (Campothera), 100, 101, 568.
smithii (Chrysoptilopicus), 100.
smithii (Dendromus), 98.
smithii (Picus), 101.
sondaicus (Picus), 326.
sondaicus (Yungipicus), 326.
soneratii (Picus), 410.
sordidus (Dendropicus), 483.
sordidus (Hemicercus), 483, 484.
sordidus (Meiglyptes), 483.
sordidus (Picus), 212, 484.
Soroplex, 10.
Spaniopicoides, 134.
speciosus (Chrysoptilus), 117.
spectabilis (Celeus), 435.
Sphyrapicus, 186.
Sphyropicus, 4, 187.
spilogaster (Campias), 358.
spilogaster (Chloronerpes), 358.
spilogaster (Dendrobates), 358.
spilogaster (Mesopicus), 358.
spilogaster (Picumnus), 532.
spilogaster (Picus), 358.
spilolophus (Picus), 454.
splendens (Campophilus), 480.
spodocephalus (Dendrobates), 370.
spodocephalus (Dendropicus), 371.
spodocephalus (Mesopicus), 369, 370, 371.
spodocephalus (Picus), 369, 370.
spodocephalus (Scleco-thores), 371.
squamatus (Brachylophus), 50.
squamatus v. nepalensis (Brachylophus), 43.
squamatus (Celeus), 432.
squamatus (Chloropicus), 43.
squamatus (Chrysoptilus), 43.
squamatus (Gecinus), 43, 45.
squamatus (Malacolophus), 43.
squamatus (Picus), 43, 47.
squamicolle (Chrysophlegma), 126.
squamicollis (Picus), 125.
squamiger (Picumnus), 540.
squamigularis (Meiglyptes), 396.
squamigularis (Picus), 396.
squamosus (Chloronerpes), 358.
squamosus (Picus), 358, 455.
squamulatus (Picumnus), 540.
squamulosus (Microcolaptes), 540.
steindachneri (Picumnus), 535.
Stictocraugus, 90.
Stictopicus, 90.
stolzmanni (Colaptes), 27.
streuuus (Picus), 448, 451.
striaticeps (Brachypternus), 417.
striatipectus (Melanerpes), 149.
striatus (Centurus), 89.
striatus (Chloronerpes), 89.
striatus (Dendrobates), 101, 102.
striatus (Picus), 89, 167.
striatus (Zebrapicus), 89.
stricklandi (Brachypternus), 453.
stricklandi (Chrysocolaptes), 453, 454, 455.
stricklandi (Dendrocopus), 243, 571.
stricklandi (Dryobates) 229, 244.
stricklandi (Leuconotopicus), 243.
stricklandi (Phrenopicus), 243.
stricklandi (Picus), 228, 243.
stricklandi (Threnopipo), 244.
strictus (Chrysocolaptes), 442, 446, 447, 448, 449, 452.
strictus (Indopicus), 447, 449.
strictus (Picus), 447, 448.
striolatus (Chloropicus), 50.
striolatus (Gecinus), 50, 56.
striolatus (Picus), 50, 253, 352.
Stugnopicus, 384.
subauratus (Picus), 9.
subcampestris (Chrysoptilus), 25.
subcirris (Dendrocopus), 271.
subcirris (Dryobates), 271.
subelegans (Centurus), 174, 177.
subelegans (Picus), 179.
subflavus (Celeus), 440, 572.
submexicanus (Picus), 21.
subocularis (Picus), 167.

subrufinus (Xylurgus), 201.
sulfuriventer (Centurus), 182.
sultaneus (Chrysocolaptes), 448.
sultaneus (Indopicus), 449.
sultaneus (Picus), 447, 448, 449, 450.
superciliaris (Centurus), 167.
superciliaris (Colaptes), 167.
superciliaris (Melanerpes), 167, 169.
superciliaris (Picus), 167.
superciliaris (Zebrapicus), 167.
superciliosus (Colaptes), 167.
syriaca (Campethera), 225.
syriacus (Dendrocoptes), 226.
syriacus (Dendrocopus), 225.
syriacus (Picus), 225.
syriacus leucopterus (Picus), 215.

tænionotus (Campias), 353.
tænionotus (Chloronerpes), 353.
tænionotus (Dendrobates), 353.
tænionotus (Mesopicus), 353.
tænionotus (Picus), 353.
tancola (Gecinus), 55.
tancola (Picus), 55.
tancolo (Gecinus), 55.
temmincki (Bæopipo), 335.
temmincki (Iyngipicus), 335.
temmincki (Picumnus), 530.
temmincki (Picus), 335.
temmincki (Yungiceps), 335.
temmincki (Yungipicus), 335.
temminckii (Picumnus), 530.
tephrodops (Campias), 353.
tephrodops (Chloronerpes), 352.
tephrodops (Dendrobates), 352.
tephrodops (Eleopicus), 352.
tephrodops (Picus), 352.
terrestris (Geocolaptes), 9.
terrestris (Picus), 9.
terricolor (Centurus), 176.
terricolor (Melanerpes), 175, 176.
Theiopicus, 10.
thoracinus (Picus), 437.
Three-toed Woodpecker, 280.
Threnopipo, 202.
Thripias, 5, 306.
Thripouax, 8, 497.
thyroideus (Cladoscopus), 196.
thyroideus (Colaptes), 196.
thyroideus (Melanerpes), 196.
thyroideus (Picus), 196.
thyroideus (Pilumnus), 196.
thyroideus (Sphyrapicus), 196.
thyroideus (Sphyropicus), 196, 569.
Tiga, 6, 411.
tiga (Chloropicoides), 412.
tiga (Chrysonotus), 412.
tiga (Picus), 412, 414.
tinnunculus (Celeopicos), 438.
tinnunculus (Celeopicus), 438.
tinnunculus (Celeus), 438, 439.
tinnunculus (Cerchneipicus), 438.
tinnunculus (Picus), 438.
torquatus (Asyndesmus), 137, 138.
torquatus (Celeus), 437.
torquatus (Cerchneipicus), 436, 437, 438.
torquatus (Melampicos), 138.
torquatus (Melampicus), 138.
torquatus (Melanerpes), 137.
torquatus (Picus), 137, 437.
Torquilla, 559.
torquilla (Iunx), 561.
torquilla (Iynx), 560, 561, 565, 566.
torquilla (Junx), 562.
torquilla (Jynx), 561.
torquilla (Yunx), 560.
trachelopyrus (Campephilus), 469.
trachelopyrus (Campophilus), 469.
trachelopyrus (Dryocopus), 469.
trachelopyrus (Megapicus), 469.
Très petit pic de Cayenne), 544.
Trichopicus, 139.
tricolor (Centurus), 174, 176.
tricolor (Melanerpes), 174, 176, 177.
tricolor (Picus), 174, 177.
tricolor (Zebrapicus), 175, 176.
tridactyla (Tiga), 412.
Tridactylia, 274.
tridactylus (Apternus), 276.
tridactylus (Chrysonotus), 412.
tridactylus (Dendrocopos), 275.
tridactylus (Dryobates), 275.
tridactylus (Picoides), 275, 277, 278.
tridactylus (Picus), 275, 277, 279, 281, 282.
tridactylus (Tridactylia), 276.
tridactylus alascensis (Picoides), 281.
tridactylus americanus (Picoides), 280.
tridactylus, var. americanus (Picoides), 280.
tridactylus dorsalis (Picoides), 278.
Tripsurus, 139.
tristis (Hemicircus), 385.
tristis (Meiglyptes), 385, 386, 388.
tristis (Miglyptes), 384, 385, 386.
tristis (Phaiopicos), 385.
tristis (Phaiopicus), 385.

tristis (Picus), 384, 385, 386.
trisulensis (Picus), 316.
trisulensis (Yungipicus), 316, 322.
tucci (Meiglyptes), 389.
tucumanus (Chloronerpes), 87.
tukki (Meiglyptes), 388.
tukki (Miglyptes), 388, 389, 390.
tukki (Picus), 388, 389.
turati (Picus), 242.
turatii (Dryobates), 242.

undatus (Celeus), 431, 432.
undatus (Cerchneipicus), 431.
undatus (Malacolophus), 431.
undatus (Meiglyptes), 431.
undatus (Picoides), 279.
undatus (Picus). 431.
undosus (Picoides), 279.
undulata (Tridactylia), 279.
undulatus (Picumnus), 543.
uralensis (Picus), 271.
uralensis (Pipripicus), 271.
uropygialis (Centurus), 182.
uropygialis (Chloronerpes), 84.
uropygialis (Melanerpes), 182, 569.
uropygialis (Picus), 182.

vagatus (Picus), 246.
vaillanti (Gecinus), 41.
vaillantii (Chloropicus), 41.
vaillantii (Gecinus), 41.
validirostris (Bæopipo), 332.
validirostris (Picus), 332.
validirostris (Yungipicus), 322.
validus (Campephilus), 458.
validus (Chrysocolaptes), 458.
validus (Hemilophus), 458.
validus (Megapicos), 458.
validus (Megapicus), 459.
validus (Picus), 458.
validus (Reinwardtipicus), 458.
validus (Xylolepes), 459.
variegata (Bæopipo), 326.
variegatus (Picoides), 275, 279.
variegatus (Picus), 259, 325, 328.
variegatus (Yungipicus), 328.
variolosa (Campethera), 102.
variolosus (Chrysopicus), 103.
variolosus (Dendrobates), 102.
variolosus (Ipagrus), 103.
varius (Cladoscopus), 189.
varius (Dendrocopus), 189.
varius (Picus), 188, 193, 287.
varius (Pilumnus), 189.
varius (Sphyrapicus), 189, 192.
varius (Sphyropicus), 188, 189, 193, 194, 195, 569.
varius, var. (Picus), 193.
varius nuchalis (Sphyrapicus), 193.
varius nuchalis (Sphyropicus), 193.
varius, var. nuchalis (Sphyrapicus), 193.
varius, var. nuchalis (Sphyropicus), 193.
varius, occidentalis (Picus), 193.
varius ruber (Sphyrapicus), 194.
varius ruber (Sphyropicus), 194.
varius, var. ruber (Sphyrapicus), 194.
varius, var. ruber (Sphyropicus), 194.
varius, var. varius (Sphyropicus), 189.
Venilia, 33.
Verreauxia, 8, 553.
verreauxi (Dryotomus), 472, 508.
verreauxi (Picus), 435.
verreauxii (Celeopicus), 434.
verreauxii (Celeus), 434.
verreauxii (Picumnus), 553.
vestita (Campethera), 105.
vieillotii (Picus), 251.
villosus (Dendrocopus), 230, 231, 234, 235.
villosus (Dryobates), 230.
villosus (Picus), 230, 231, 232, 233, 234.
villosus (Trichopicus), 231.
villosus auduboni (Dryobates), 232.
villosus, var. auduboni (Picus), 232.
villosus, var. canadensis (Picus), 231.
villosus harrisi (Dryobates), 235.
villosus harrisi (Picus), 234.
villosus, var. harrisi (Picus), 234.
villosus harrisii (Dryobates), 237.
villosus insularis (Dryobates), 234.
villosus insularis (Picus), 234.
villosus jardinii (Dryobates), 237.
villosus leucomelas (Dryobates), 231.
villosus leucomelas (Picus), 231.
villosus, var. major (Picus), 231.
villosus maynardi (Dryobates), 234.
villosus, var. medius (Picus), 231.
villosus, var. minor (Picus), 232.
villosus, var. villosus (Picus), 231.
virescens (Colaptes), 37.
virescens (Gecinus), 38.
viridanus (Gecinus), 47.
viridanus (Picus), 47.
viridicanus (Colaptes), 53.
viridicanus (Gecinus), 54.
viridi-canus (Picus), 53.
viridis (Brachylophus), 38.
viridis (Colaptes), 37.
viridis (Chloropicos), 38.
viridis (Chloropicus), 38, 41.
viridis (Geciniscus), 136.
viridis (Gecinulus), 136.
viridis (Gecinus), 36, 37, 40, 41.
viridis (Malacolophus), 38.
viridis (Picus), 36, 40, 41.

viridis (Tiga), 136.
vittatus (Gecinus), 46, 48.
vittatus (Picus), 46, 47.
Vivia, 521.

wagleri (Dyctiopicus), 260.
wagleri (Picus), 261.
waglerii (Picus), 260.
wallacei (Alophonerpes), 491.
wallacei (Mulleripicus), 491.
wallacii (Microstictus), 491.
wallacii (Picumnus), 547.
warscewiczii (Chloronerpes), 87.
wattersi (Iyngipicus), 317.
weberi (Gecinus), 48, 50.
westermani (Picus), 261.
White-rumped Woodpecker, 146.
williamsoni (Cladoscopus), 196.
williamsoni (Melanerpes), 196.
williamsoni (Picus), 196.
williamsoni (Sphyrapicus), 196.
williamsoni (Sphyropicus), 196.
wilsoni (Picus), 245.
wilsoni (Trichopicus), 245.
Woodpecker, Golden-winged, var. A, 17.
Woodpecker, Green, 36.
Woodpecker, Grey-headed, 53.
Woodpecker, Grey-headed Green, 52.
Woodpecker, Half-billed, 37.
Woodpecker, Malaccan, 122.
Woodpecker, Nubian, 93.
Woodpecker, Rayed, 89.
Woodpecker, Yellow-necked, 59.
Woodpecker, Yellow Blue-footed Persian, 37.
wrayi (Chrysophlegma), 130.

xanthocephalus (Chrysocolaptes), 457.
xanthochlorus (Chloronerpes), 73.
xanthoderus (Chloropicus), 62.
xanthoderus (Chrysophlegma), 62.
xanthoderus (Gecinus), 59, 63.
xanthoderus (Picus), 62.
xantholarynx (Melampicus), 155.
xantholarynx (Melanerpes), 155.
xantholarynx (Picus), 155.
xantholophus (Dendropicus), 375.
xantholophus (Mesopicus), 375, 571.
Xanthopicus, 420.
xanthopygæus (Brachylophus), 50, 52.
xanthopygæus (Gecinus), 50.
xanthotænia (Chloronerpes), 79.
xanthotænia (Picus), 79.
Xenoeraugus, 284.
Xenopicus, 4, 284.
Xiphidiopicus, 5, 376.
Xylocopus, 202.
Xylolepes, 442.
Xylurgus, 198.

Yellow-belly'd Woodpecker, 188.
Yellow Blue-footed Persian Woodpecker, 37.
Yellow-necked Woodpecker, 59.
yucatacensis (Picus), 84.
yucatanensis (Chloronerpes), 81, 83, 84, 86.
yucatanensis (Picus), 84.
yucatensis (Chloronerpes), 82, 84.
yucatensis (Picus), 84.
Yungipicus, 309.
Yunx, 559.

zanzibari (Dendropicus), 297, 301.
zarudnoi (Gecinus), 43.
zebra (Picus), 170.
Zebrapicus, 139.
zizuki (Picus), 316, 318.

END OF THE EIGHTEENTH VOLUME.

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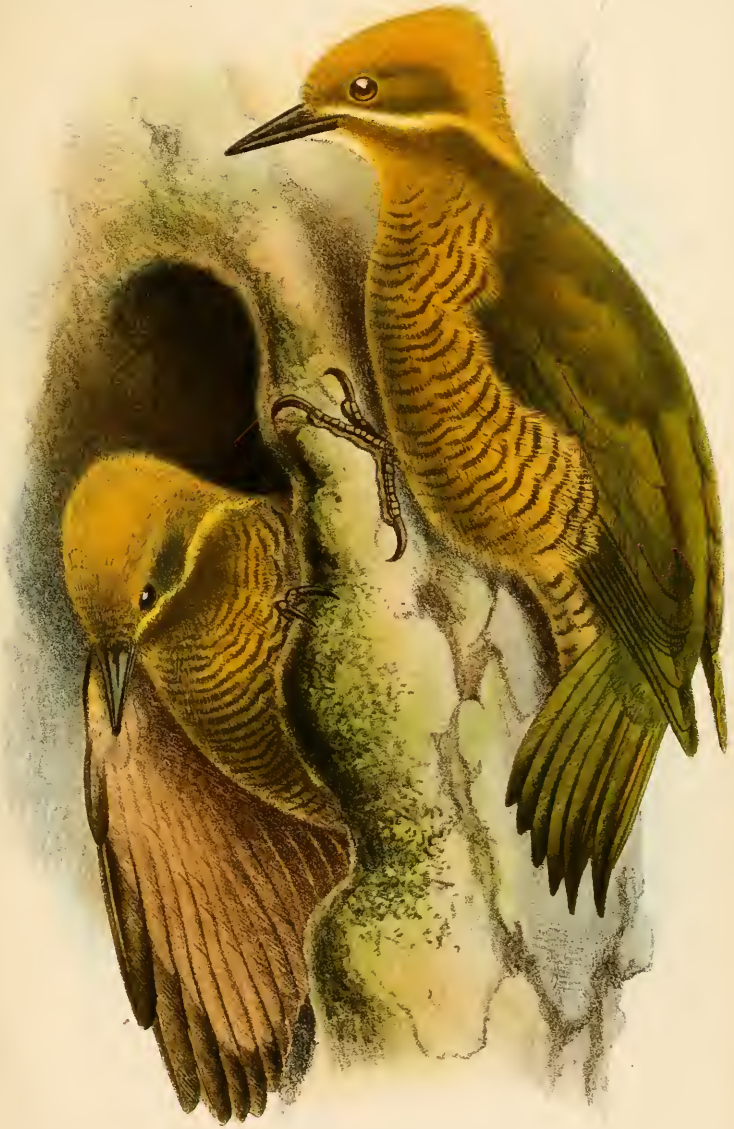
LIST OF PLATES.

	Plate
Chloronerpes xanthochlorus, p. 73	I.
Chrysophlegma wrayi, p. 130	II.
Melanerpes pulcher, p. 160	III.
Dendrocopus pyrrhothorax, p. 224	IV.
Iyngipicus nigrescens, p. 319	V
—— picatus (fig. 1), p. 324	VI.
—— grandis (fig. 2), p. 325	
Dendrobates fidelis, p. 357	VII.
Mesopicus xantholophus, p. 375	VIII.
—— johnstoni, p. 375	IX.
Celeus spectabilis, p. 435	X.
Cerchneipicus occidentalis, p. 439	XI.
Chrysocolaptes rufopunctatus, p. 457	XII.
Thriponax pectoralis, p. 500	XIII.
Picumnus flavifrons (figs. 1, 2), p. 547	XIV.
—— wallacii (fig. 3), p. 547	
Sasia everetti, p. 559	XV.



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Chloronerpes xanthochlorus.

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Chrysophlegma wrayi.

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Melanerpes pulcher.

$\frac{1}{1}$

Peter Smit del et lith. Mintern Bros Chromo.

Dendrocopus pyrrhothorax.

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Iyngipicus nigrescens, ♂.♀.

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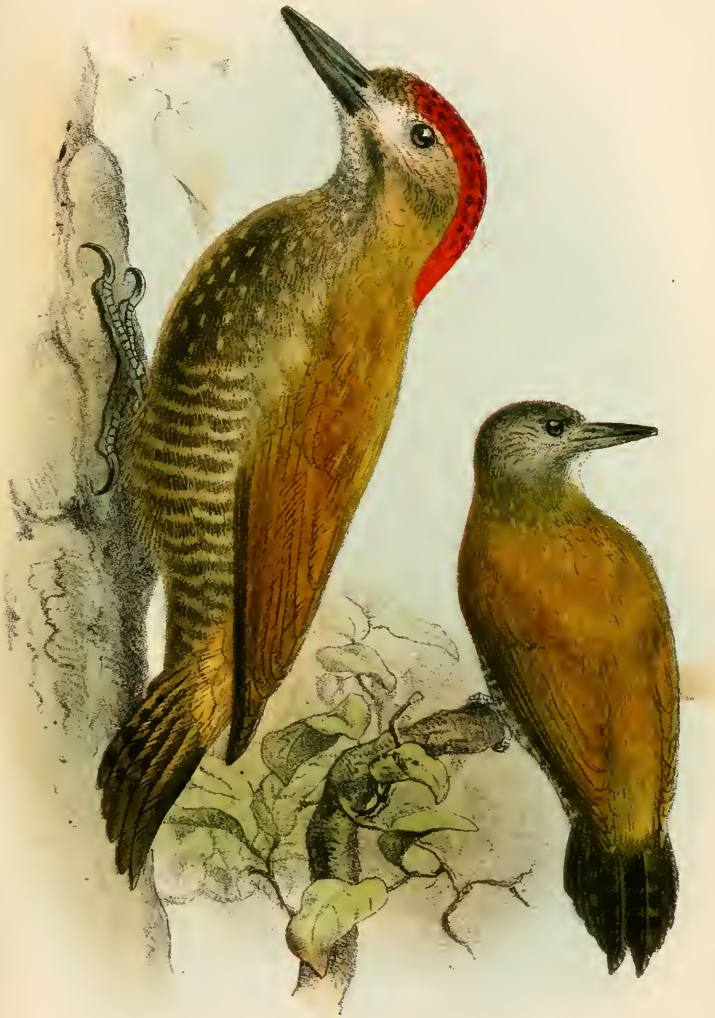
1. Iyngipicus picatus. *2. Iyngipicus grandis.*



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Dendrobates fidelis.

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Mesopicus xanthalophus.

$\frac{1}{1}$

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Mesopicus johnstoni.

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Celeus spectabilis.

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Cerchneipicus occidentalis.

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Chrysocolaptes rufopunctatus.

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Thripophaga pectoralis.

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